

QUARTERLY SUMMARY
OF THE
IMPROVEMENTS AND DISCOVERIES
IN THE
MEDICAL SCIENCES.
—
ANATOMY AND PHYSIOLOGY.

A Triple-divided Pharynx.

Dr. E. HOFMANN reports the case of a woman, aged 58, to whom his attention was attracted by her efforts at breathing, her long-drawn and piping respiration, and her livid color. Her voice also was nasal. The patient related that for twenty years she had suffered difficulty in breathing and swallowing. Sleep was possible only in the sitting position, and was frequently broken by cough, during which foam was ejected and a feeling of suffocation experienced which compelled her to leave her bed and seek fresh air. For five years she had been unable to take solid food, and only with difficulty was she able to swallow water, broth, milk, and other fluids, which for the most part escaped through the nose when attempt was made to swallow them.

Examination of the pharynx revealed the cause of the trouble. The pharynx was apparently divided into an upper, or pharyngo-nasal, a middle, or pharyngo-oral, and a lower, or pharyngo-laryngeal, portion by horizontal partition walls. In addition, the separation of the retro-pharyngeal space from the middle portion of the pharynx—a condition not seldom met in syphilis—was accomplished as follows:—

The patient's soft palate, as a result of syphilis, was in part destroyed and in part converted into an immovable strip of cicatricial tissue, which had grown fast to the posterior wall of the pharynx, near the arcus pharyngo-palatinus, thus forming a cleft about three-fifths of an inch long and one-fifth of an inch across in its transverse diameter, through which the middle and upper portions of the pharynx communicated. Close to the upper portion of the cleft the uvula was found much displaced, but well preserved. The laryngeal mirror placed before this cleft did not bring into view either the inferior pharyngeal cavity, the root of the tongue, the epiglottis, or the larynx.

The inferior pharyngeal space was almost entirely separated from the middle by a partition wall. The posterior portion of the tongue was in its entire breadth united with the posterior and lateral pharyngeal walls. In addition there was present, on either side, a horizontal, dense, cicatricial band as broad as a finger nail, while on the right and the left side of the pharynx was found a somewhat deep blind pocket, through which a sound could not be introduced.

Between the two cicatricial bands and at the centre of the space careful inspection revealed the presence of a small opening, which led into the lower cavity. This passage was round, covered with foam, and scarcely large enough to admit a catheter of moderate size, and was the sole communication between the external buccal orifice, the œsophagus, and larynx for the passage of air and food.

Dr. Hofmann successfully applied the galvano-cautery to the cicatricial right band, which was found to be less superficial than it appeared at first sight. After the application the tracheal sound was introduced with marked improvement in the respiration of the patient. Hemorrhage during the operation was unimportant.

At a second operation the left side of the inferior pharyngeal space was opened, and the epiglottis was found in great part to be absent, only a small stump remaining.

Examination made four days after the second operation showed the pharynx to be funnel-shaped in the region of the epiglottis, and the patient was now able to eat and drink *ad libitum*, and to breathe and sleep without difficulty. A third attempt to remove a slight remaining constriction caused such profuse hemorrhage that, after ineffectual effort to check it having been persisted in for an hour and a half, tracheotomy was performed, and the pharynx tamponed. This measure was successful, and hemorrhage not recurring, the patient was discharged cured.—*Deutsche Medicinische Wochenschrift*, July 9, 1885.

Congenital Malformation of the Heart. Existence of a Canal by which a Communication between the Right Ventricle and the Origin of the Aorta was established.

M. A. CAYLA reports, in *Le Progrès Médical* of August 15, 1885, a rare congenital malformation of the heart. The subject—a child aged ten days—during life exhibited symptoms of defective circulation and of asphyxia. Post-mortem examination revealed the following anomalous condition of the heart:—

The organ was considerably increased in volume, globular, and filled almost entirely the left side of the chest, so that the lung on this side could not be seen, while that on the right was of normal size. Further examination showed the left lung to be only one-third the normal size.

The heart was of the shape of a triangular prism, presenting an anterior, a posterior, and a right face formed by the right ventricle. In height it measured three inches, and had a breadth of two and one-half inches. The right ventricle constituted at least two-thirds of its entire volume, while the left was consequently considerably diminished.

On cutting through the apex it became evident that the right ventricle was divided into two cavities.

On the left of the interventricular septum, at its inferior limit, the knife reached a third cavity—the left ventricle, so situated that the apex of the heart was entirely formed by the right ventricle. Section of the two cavities of the right ventricle showed two passages, the one normal, the other abnormal, and leading to the origin of the aorta at a level with the sigmoid valves. Communication also existed between the left ventricle and the aorta. Three incisions thus revealed three cavities, two ventricular and between them a third hollowed in the tissue of the heart, and separated from the right ventricle by a partition two-fifths of an inch in thickness, and from the left by a partition of normal thickness, which at no point presented a solution of continuity.

The direction of the canal was oblique, opening by its lower extremity into the right ventricle and terminating above in the aorta. It was funnel-shaped, and at the inferior portion could receive the end of the little finger, while at its termination in the aorta its dimensions were those of a quill.

The aorta valves were present, but exhibited irregularities on their surface. The walls of the aorta were thin. The remaining valves of the heart were normal.

M. Cayla, under the direction of Prof. CORNIL, has sought and failed to find record of any similar anomaly of the heart, and concludes that this case, if not unique, is at least very rare.

Anomalies in the Development of the Hymen.

Dr. R. DOHN, in the *Zeitschrift für Geburtshülfe und Gynäkologie*, Band XI. heft 1, gives the following summary of the principal anomalies of development observed in the hymen, the author first stating that the normal form of the hymen is the annular, with predominance of the posterior portion, and the approximation of the hymeneal orifice toward that of the urethra.

The orifice of the hymen rarely occupies the centre of the membrane, and admits the annexed eight varieties of abnormal hymen:—

1. The denticulate hymen serrated in contour, frequent.
2. The fimbriated hymen with broken edges.
3. The infundibuliform hymen with the edges drawn above, not rare in the new-born, but found also in adults.
4. Hypertrophied hymen, rare, only two cases having been observed; hypertrophy is partial, and is observed rather in the anterior portion.
5. Multiple hymen characterized by the existence below the hymen of a second partial membrane.
6. The divided or bifurcated hymen, whose orifice is divided into two portions by a partition generally vertical.
7. The columnar hymen, in which the partition is extended below the hymen into the vagina.
8. The cribriform hymen, in which in lieu of a single orifice there are numerous small ones.

Absence of the hymen is very rare; it has been observed by Rose, Toulmouche, Tolberg, etc.

Displacement of the hymen toward the apex of the vagina has been observed by Krimer.

Anomalies in the texture of the hymen are very variable, ranging from that of a spider's web to the consistency of cartilage or bone.

Persistence of the hymen during pregnancy has been observed very frequently. Tolberg describes a hymen which remained intact after the expulsion of a fetus of six months.

Atresia of the hymen is of all anomalies the one which attracts attention most frequently, and demands surgical intervention.—*Revue des Sciences Médicales*, July, 1885.

MATERIA MEDICA AND THERAPEUTICS.

Styptic or Hæmostatic Ether.

Dr. B. W. RICHARDSON (in *The Asclepiad* for July, 1885) calls attention to styptic or hæmostatic ether. He says: In first observing the influence of the cold produced by the dispersion of absolute ether during operations, nothing struck me more than the effect of the cold in immediately stopping the flow of blood. For a time, cold alone, when carried to a sufficient degree, prevents all venous

and capillary hemorrhage, and even the hemorrhage from small arterial trunks. After a time, however, as reaction returns, and the vessels relax under the influence of heat derived from the renewed circulation, there is bleeding, which, if a wound be closed too quickly, is a cause of after-trouble. The observation of the immediate effects of cold led me to think that if they could be supplemented by a styptic which would spray evenly with ether, and which would take up the constringing action when the vessels commenced to relax, an important desideratum in practice would be supplied.

With this object in view, I requested Mr. Robbins to make for me a solution consisting of absolute ether, having a boiling point of 95° Fah., charged to saturation at a low temperature with tannin, and afterwards treated with collodion, a little short of saturation. The compound came out well. It ran easily through the spray tube without blocking; it produced good local anæsthesia, and it possessed an agreeable odor.

In order to test to the extreme the effects of this preparation as a styptic, I took sheep's blood, removed, by whipping, all the fibrin previous to coagulation, and then let the blood remain exposed to the air for two days to insure partial decomposition. In this way the blood was rendered nearly as fluid as port-wine, and in the most unfavorable condition for being transformed into clot. A few drachms of this blood were now placed in a saucer, the saucer having been warmed to the temperature of the body. The spray of the styptic ether was then directed upon the blood from a full-sized spray tube, and in five seconds the whole mass of blood was so thoroughly solidified that the saucer could be turned upside down without any escape of fluid. The blood, which had previously presented the odor of putrefaction, was also deodorized, and remained inodorous for ten days. It had a firm, leathery consistence, and on its upper surface a fine whitish layer, with a bright vermilion color beneath.

These are the effects of the styptic ether on blood, the spontaneous coagulability of which has been lost; but they are trifling when compared with what takes place on blood newly drawn, and containing fibrin. In this case coagulation under the spray is the work of a second.

When styptic spray is directed on an open bleeding living surface, the primary effects are those produced by the cold—namely, the condensation and whitening of the tissues. If blood be flowing it solidifies, and when the parts relax, new blood that may ooze up enters the solid blood as though it were a sponge, the coagulation soon stopping further flow.

The elements of this process are three in number:—

1. The immediate constringent effects of cold on the bloodvessels.
2. The styptic action of the solution on the fibrin and albumen of the blood.
3. The extreme mechanical fineness of distribution of the fluid on the bleeding surface.

Styptic ether can also be applied to the hemorrhagic surface after the extraction of a tooth; for hemorrhage from cancerous disease of the uterus or other cause; and in cases of hemorrhage from piles.

I introduced styptic spray through the *Medical Times and Gazette* of April 26, 1866, have had it in regular service ever since, and have not once known it to fail in the uses first claimed for it.

The Application of Naphthol to Some Forms of Cutaneous Disease.

P. SOMBRET (*Thèse de Paris*) gives the following *résumé* of the advantages possessed by naphthol in the treatment of some forms of skin disease.

1. The preparations are odorless, and stain neither the skin nor clothing.

2. In the use of naphthol, with the precautions advised by Kaposi, there are observed neither forms of intoxication (albuminuria, coloration of the urine) nor active inflammation of the skin.

3. In scabies, naphthol is an excellent parasiticide and exercises a very beneficial effect upon the eruption due to the disease.

4. In pediculosis the remedy is efficacious, and its use is free from danger and inconvenience.

5. In psoriasis no satisfactory effect has been observed.

6. In prurigo (of Hebra) naphthol causes the itching to disappear rapidly, and has beneficial effect upon the eruption. It, nevertheless, does not possess a curative power in this disease greater than that possessed by other remedies.—*Revue des Sciences Médicales*, July, 1885.

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Pyrogallic Acid and Collodion as a Remedy for Psoriasis.

Dr. GEORGE T. ELLIOT, in the *New York Medical Journal* of September 5, 1885, recommends the following formula in the treatment of psoriasis:—

R.—Acidi pyrogallici, ʒss–ʒij.

Acidi salicylici, ʒss.

Collodii flex, ʒij.

M. et ft. sol.

Keep in a dark-colored bottle.

The results obtained in treating psoriasis with the pyrogallic collodion have been in every way satisfactory. A great change could be seen in the lesions after a few applications. There was an absence of scales and a diminution in the hyperæmia, and the plaques and spots appeared less elevated. The time which was required in curing the psoriasis by means of this solution has naturally varied according to the extent of the disease and the length of time which it had existed. Any rule in regard to it could scarcely be made. The quickest results obtained were in psoriasis guttata, and the slowest in a case of psoriasis nummularis of long standing. In cases where the eruption is universal, or nearly so, it is of course advisable to treat the various portions affected *seriatim*. The results will be just as satisfactory; only the time required will be longer.

In one other form of skin disease, herpes tonsurans, Dr. Elliot has used this solution of pyrogallic acid, and with most gratifying success. Its effect upon the lesions has been surprising, two applications having been sufficient in the majority of cases to effect complete cure.

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On the Failure of Salicyl-Compounds in the Treatment of Acute Rheumatism accompanied with Inflammation of the Genito-Urinary Mucous Membranes.

Dr. THOMAS R. FRASER, in discussing the failure of the salicyl-compounds in relieving rheumatism complicated with gonorrhœa, thus gives expression to his views, holding:—

1. That many of the cases which have been considered to be gonorrhœal rheumatism were merely cases of toxæmia, produced by a toxic substance absorbed from an inflamed genito-urinary mucous membrane. The cases I refer to are met with especially among the examples of chronic mono- or oligo-articular inflammation.

2. That in other cases the disease is a rheumatism modified by toxic infection from a venereal or non-venereal inflammation of the genito-urinary mucous membrane. The rheumatic or toxæmic phenomena may in these cases be present in very different degrees of relative prominence, sometimes the rheumatic, and, at

other times, the toxæmic phenomena being the more prominent. This, the true form of gonorrhœal rheumatism, presents itself chiefly as an acute or a sub-acute disease.

3. That in no variety of gonorrhœal rheumatism is the progress of the disease materially influenced by the administration of salicyl-compounds; and as the distinction in acute, and even in sub-acute cases between gonorrhœal and ordinary rheumatism is always at the commencement, and sometimes during a great part of their progress, a matter of much difficulty, the failure of the salicyl-compounds in the former disease is a valuable assistance in diagnosis.—*Edinburgh Medical Journal*, September, 1885.

MEDICINE.

The Preventive Inoculation of Cholera.

At the late meeting of the Congrès de l'Association Française pour L'Avancement des Sciences, held August 12, 1885, M. CHAUVÉAU read a communication upon the preventive inoculation of cholera, in which the following conclusions were reached:—

1. The subcutaneous connective tissue is a region but little favorable for the proliferation of the pathogenic material of the choleraic virus and for the development of a malignant disease.

This tissue is accordingly very appropriate to serve as a point of introduction for the virus to produce an attenuated infection capable of exercising a preventive influence.

2. The slight resemblance which exists between the characteristics of this imperfect infection and those of true cholera cannot be invoked as a reason for denying *a priori* the choleraic nature of the slight symptoms produced by inoculation, and for denying absolutely the possibility of thus protecting against the natural disease. The efficacy of preventing inoculation is rendered probable by the example of numerous well-established analogous experiments which have been tried with great success in veterinary medicine.

3. In the well-known cases to which allusion has been made, and which especially concern peripneumonia and emphysematous charbon, virulent infection by the pathogenic material, properly so called, is undeniable, and is caused simply to produce immunity.

Soluble materials contained in the very minute quantity of the inoculated liquid do not exercise any save an indirect action upon the results of inoculation.

There is no reason to suppose that the ptomaines of bouillon in choleraic cultures exert any active influence, notwithstanding the relatively large quantity of bouillon injected in the inoculations of M. Ferrán.

4. The more perfect immunity which, according to the statistics of M. Ferrán, will be conferred by a second or third inoculation by an abundance of material, proves nothing in favor of the intervention of a soluble poison. It is, indeed, established in science, that the *same attenuated culture*, inoculated on different occasions in *very small quantities*, increase each time the immunity against the action of strong virus, due to the multiple result of the infection produced by inoculation.

5. Tolerance of the human organism for large quantities of infectious bouillon can probably be explained not only by the unfavorable conditions afforded by the

region into which the bouillon is introduced, but more still by the feeble virulent activity of the material. It is possible, indeed, that the cultures of comma bacilli in sterilized bouillon under ordinary circumstances may be naturally weak.

Nothing could be easier, if it were necessary, than to attenuate them still further by heat, as the comma bacillus belongs to the class of pathogenic microbes whose activity is very easily modified by this agent.

6. The quantity of the virulent material inoculated should be regulated according to the activity of that material. It is possible that the liquid used by M. Ferrán is so little active that it is necessary to inject it in the dose of one cubic centimetre, but the evidence justifies the belief that the injections would be entirely as efficacious if they were made with only two or three drops of a fluid well prepared.

7. There is little chance of creating foci of infection by the practice of preventive anti-choleraic inoculations, because the inoculated subjects are not in a condition favorable to the production and dissemination of malignant germs.

8. Active scientific deductions therefore authorize tentative preventive inoculations in cholera by the injection of liquids containing cultures of the comma bacillus into the subcutaneous cellular tissue.

They explain the innocuity of these inoculations, but do not permit their efficacy *a priori* to be affirmed. For the latter rigorous, comparative experiments are necessary.

9. From the general results of this study, there is reason to follow with interest the inoculations of M. Ferrán, notwithstanding the unscientific character of his preceding researches and of his actual practice.

There is reason likewise to examine critically the results which he announces. —*Le Progrès Médical*, August 22, 1885.

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The Comma Bacillus in the Organism; its Cultivation and Products of Fermentation.

NICATI and RIETSCH, in the *Arch. de Physiologie*, vol. xvi. p. 72, make a report concerning the occurrence of the comma bacillus in cholera, and also of their observations at Marseilles concerning its morphological and biological peculiarities. After a description of the methods of microscopical examination pursued by them, which do not differ materially from those employed by Koch, they append the collected results of thirty-one post-mortem examinations.

They state, in the first place, that in every instance the presence of the comma bacillus was confirmed; but from further data and a tabular review it appears that in six instances only negative results were obtained. However, on account of insufficient examination of the bodies of the deceased, they place no value upon their conclusions. In one instance the bacilli were found in the stools of the patient, but could not be discovered in the body after death. The number of bacilli varied according to the course and duration of the disease. In rapid cases they appeared to diminish considerably from the fourth to the fifth day. In a matter they were discovered in three out of eight cases. The anatomical changes of the intestine were principally confined to the epithelium. This peeled off, and the inner layer of the bowel had the appearance of being brown over with flour. Injection of the follicles and Peyer's patches, as well as infiltration of these glands, was observed later, but not as a constant appearance. The epithelium was entirely desquamated. Throughout the extent of the affected intestine the bacilli were found in abundance; in rapid cases they were found in the duodenum and throughout the whole smaller intestine. They were not present in the stomach. In the less rapid cases they were found only in the cæcum, especially in the neighborhood of the ileo-cæcal valve.

In the moist chamber the bacilli increased so rapidly in the mucosa, that finally the tissue of the mucous membrane could no longer be seen. Furthermore, the bacilli were easily recognized in the bowel beneath the epithelium and in the connective tissue. They were sought without success in the liver. They were found, however, once in the ductus communis choledochus, and in two of five cases in the gall-bladder.

As control experiments, the intestines of three suicides and the stools of twelve diarrhœa patients were vainly searched for the comma bacillus.

These results the experimenters consider as entirely confirming the communications of Koch, with whom they also agree in their report concerning the gelatine and plate cultures, together with the appearance and growth of the colonies. In consequence of their agreement with the report of Koch, more extended reference to their account is unnecessary. In addition to their study of solid culture material, the investigators also cultivated the bacillus to obtain more exact information as to biological peculiarities in fluid media. Here they observed in all their cultures a peculiar but not unpleasant odor; neither was it a putrid odor, nor common to the contents of the bowel. This, they consider, had its origin in the alkaloid which Villiers has demonstrated to be present in the intestinal contents of cholera patients, and which has the odor of whitethorn.

The recognized morphological peculiarities of the bacillus are also pointed out. Special attention should be called to the fact that the spiral forms of greater circumference which, in consequence of their length, moved only slowly, were especially found in fluid culture media.

In conclusion, attention is called to the peculiarities of another curved bacillus whose microscopic appearance could easily cause it to be confounded with the comma bacillus.

This bacillus Nicati and Rietsch found in the intestine of a healthy man, and by culture it is easily distinguishable from the true comma bacillus.

The colonies differ considerably from those of the latter by a uniform radiate striation proceeding from a dark nucleus.

Morphologically, it is of plumper shape than the comma bacillus, and only slightly inclines to a spiral form. In the ground water of Lille, Hericourt has discovered still another curved bacillus. This Nicati and Rietsch consider identical with the one described by them, and also hold both to be identical with the bacillus of Finkler and Prior.—*Deutsche Medicinische Wochenschr.*, August 27, 1885.

Two Cases of Severe Anæmia cured by the Subcutaneous Injection of Blood.

Dr. OSCAR SILBERMANN reports, in the *Deutsch. Med. Wochenschrift* of June 25, 1885, two cases of severe anæmia cured by the subcutaneous injection of blood.

CASE I.—The first case is that of a boy eight years of age, who, after a severe attack of measles and whooping-cough, became exceedingly anæmic. The face was sallow and the mucous membranes pale. There existed also palpitation of the heart, fainting, vomiting, and a systolic mitral murmur. The patient was persistently drowsy, and sometimes slept almost the entire day. Slumber during the night was frequently disturbed by slight fever. Examination of the blood showed it to be very pale in color, and also to contain white corpuscles in a proportion far beyond the normal. March 1, 1885, subcutaneous injections of blood were administered, according to the method recommended by Ziemssen. After careful disinfection of the arms of both donor and patient, as well as of the hands of the operator and his instruments, forty-five grammes of blood were taken from the arm of a healthy brother of the patient, and

received into a thoroughly disinfected basin, and defibrinated in a water-bath having a temperature of 102.2° F. Twenty grammes of blood were then injected into each thigh, by means of a warmed and thoroughly disinfected glass syringe. The operation only required sixteen minutes.

The condition of the patient in the evening was favorable. The temperature was normal, and there was no inflammation or pain at sites of injection.

Two days after the operation the condition of the patient was considerably improved. The complexion was more healthful. No fainting fits had occurred.

March 10, a syncopal attack having recurred the day previous, a second injection of forty grammes of blood was administered.

The procedure was as before painless and unaccompanied by adverse symptoms, and the progress of the patient toward recovery was uninterrupted.

The vomiting, palpitation of the heart, and attacks of fainting no longer were present, and May 20, less than three months after the inauguration of the treatment, the patient was nearly cured.

CASE II.—The second case reported by Dr. Silbermann is that of a girl eleven years old, who, in consequence of profuse hemorrhage from the removal of an intestinal polypus, became very much reduced and anæmic. As in the preceding case marked paleness of the skin and mucous membranes existed, together with attacks of syncope, vomiting, and gastric pain. Respiration was very feeble, and a systolic murmur was recognizable at the apex of the heart. The blood was pale, and the proportion of the white corpuscles greatly increased. February 26, subcutaneous injection of blood was practised with the same antiseptic precautions as in the preceding case.

The results agree in all respects with those observed in the first case. By the middle of March, in addition to the disappearance of the symptoms before enumerated, the weight of the child had increased nearly seven pounds, and at the present time her health is perfect.

Contribution to the Study of Morphiomania.

Dr. MARANDON DE MONTYEL summarizes the results of his investigations of the production of morphiomania as follows:—

I. Morphiomania has its origin either in a demand for intellectual excitation and psychical pleasure or in the acquired habit.

II. Injections of morphia have as a result a double action: a benign and a special action upon the nervous system by which its natural function becomes impossible after a certain term without the assistance of the poison. These two effects are separate and distinct from each other; the second is manifested when the first is no longer exhibited. There are, then, two kinds of morphiomania; the one resulting in temporary good effect, the other a vital necessity; and after a variable period the cases of the first order pass over into the second.

III. This double action of morphia upon the nervous system renders it an extremely dangerous medicament, and it therefore should not be prescribed hypodermically except in cases of absolute necessity.

IV. It is also extremely dangerous to combat morphiomania by the substitution of alcoholics, inasmuch as chronic alcoholic insanity may result therefrom.

V. Morphiomania may always be treated by abrupt withdrawal of the drug except in conditions when such methods are contraindicated by the vital forces of the patient or concomitant pathological phenomena. The method should also be abandoned if reactionary collapse result.

VI. In the treatment of morphiomania by gradual suppression of the drug, it appears advantageous to combine with the progressive diminution of the dose the recoil of momentum by fusing two injections into one.

VII. The medico-legal questions pertaining to morphomania are certainly based more upon extra-judicial than upon judicial clinical observation.

VIII. Observation shows that a morphomaniac may have great energy of will while the poison has not yet determined any disorder of intellect. There is here a serious proof of what has already been said, that responsibility only ceases with the period of psycho-physical marasmus.

IX. Relative to the responsibility of morphomaniacs who commit crimes or offenses to satisfy their passion, it is, perhaps, necessary to distinguish whether they have yielded to the simple appetite for the pleasant effect or to a physical necessity dependent upon the instinct of self-preservation. A conclusion of irresponsibility in the latter case seems justified.

X. In the exact appreciation of the intellectual troubles caused by the abuse of the hypodermatic injection of morphia, it is important correctly to appreciate the existence of predisposition to insanity, and the delirium produced concurrently by the absorption of other substances such as alcohol and belladonna.

XI. It is necessary to retard the continual progress of morphomania by disseminating general information in the upper ranks of society concerning the deplorable and certain evil effects following the use of the drug, and to exercise an active surveillance over pharmacists, and impose special penalties upon those who dispense morphia without a physician's prescription.—*L'Encéphale*, May and June, 1885.

Case of Tubercular Meningitis subsequent to Lupus. Tubercle Bacilli in the Blood.

DOUTRELEPONT, in the *Deutsche Med. Wochenschrift*, No. 7, 1885, reports the case of a girl eighteen years of age who was affected with lupus in various parts of the face, and with scrofuloderm, especially of the neck. In some portions of the skin affected with lupus and in the granulations of the scrofuloderm, tubercle bacilli were found. Treatment by erosion and corrosive applications together with the internal use of arsenic and iron resulted in the cure of the patient, and the disappearance of discoloration of the skin.

Shortly, however, the patient was seized with violent pain in the breast, headache, and violent vomiting. Blood taken with great care from the sound skin of the cheek contained tubercle bacilli. Death occurred in a short time, and post-mortem examination showed the pia mater at the base of the brain to be filled with miliary tubercle. The lower lobes of both lungs contained yellowish-gray granules and aggregations of tubercular material, while tubercular nodes were also present in the ileum. Blood taken from the internal jugular veins and the heart contained tubercle bacilli.

From the appearances presented Doutrelepon concludes that the general infection resulted from the initial tubercular lesion in the skin.—*Centralblatt für die Med. Wissenschaften*, August 1, 1885.

A Case of Paralysis and Suture of the Radial Nerve.

Dr. E. HOFFMANN reports the case of a man, aged 31, in whom fracture of the humerus in its middle third occurred as the result of a fall.

A plaster bandage after remaining three days was replaced by one of soft material (muslin), and in six weeks, on removal of the dressing, firm union had taken place, while complete paralysis was observed along the entire course of the radial nerve.

Immediate treatment by electricity was without result, and three months subsequent to the injury the patient was operated on by Bardenheuer.

The continuity of the nerve was found broken at the seat of fracture, and surrounded by a thick mass of callus.

The callus was removed and the nerve sutured, and electricity regularly applied for three months when the patient was discharged uncured.

The patient finally came under Dr. Hoffmann's attention, still suffering with complete left radial paralysis. The hand and finger were in a position of strong volar flexion, out of which they could be brought only by the application of considerable force.

No voluntary motion of the muscles of the forearm supplied by the radial nerve was possible, and stimulation with the induced current also was without result, the same being true of weak galvanic currents. Strong primary currents, however, excited slight motion, especially in the carpal extensors, and since the cathodal closing current produced greater contraction than the anodal closing, the prognosis was not considered hopeless. The patient was persuaded to persevere in electrical treatment for six months.

A splint was applied to the arm by which the hand and finger were held in dorsal flexion in order to extend the volar bands and the tendons. Systematic application of the galvanic current was also made, with the result that in eight weeks the Faradic current was able to produce contraction of the paralyzed muscles.

In three months voluntary motion was possible for the first time, when the forearm was held perpendicular to the arm; partial dorsal flexion of the hand was also possible.

Within a year after the reception of the injury, the function of the hand and muscles was entirely restored, save voluntary motion of the extensors and long abductor of the thumb, but the electrical contraction of these is such that there is no doubt that ultimately the complete usefulness of the hand will be restored.

Dr. Hoffmann also refers incidentally to other recorded cases of nerve-suture in Friedlander's *Fortschritte der Medicin*.—*Deutsche Med. Wochenschr.*, July 2, 1885.

Pseudo-Syphilitic Paralysis.

M. FERDINAND DREYFOUS, in concluding an able paper upon pseudo-syphilitic paralysis, which he designates as "Parror's disease," gives the following points in reference to the diagnosis of the disease:—

1. *The age of the patient.* Pseudo-syphilitic paralysis always appears during the first month after birth.

2. *Pains.* This symptom is difficult to establish, and the crying of the child when examination is made is its only index.

3. *The persistence of certain movements.* In contrast with true paralysis in the pseudo-paralysis of syphilis, certain movements of the fingers are possible, although their combined motion is impossible.

4. *The swelling of a bony epiphysis.* This symptom, if the swelling is extensive, is easily recognizable, but may be scarcely appreciable, and escape attention even when parietic phenomena are well established.

5. *The progress of the paralysis.* Paralysis in the beginning is not general, but attacks first one member, then its fellow, and subsequently the two others symmetrically.

6. *The general condition of the patient.* Syphilitic children, affected with pseudo-paralysis, are generally cachectic, as a result of the disease. No fever is present. The temperature is more probably subnormal than elevated.

7. *Inquiry concerning the antecedents, and the present condition of the parents.* Examination of the mother should be made, provided that of the child

is negative, and inquiry made concerning miscarriages, the mortality of children born at term, etc. The history of the father should also be examined.—*Revue de Médecine*, August, 1885.

Periodic Paralysis of the Limbs, with Loss of Electric Excitability.

A remarkable case of periodical paralysis is recorded in a paper by Professor WESTPHAL, *Berliner Klinische Wochenschrift*, Nos. 31 and 32, 1885. The patient, a boy of 12 years, was under close observation for several months, during which he was subject to occasional attacks of absolute loss of power in the limbs, coming on almost always at night, lasting for a few hours and disappearing with a period of quiet sleep before the morning. His general health was good, and no signs of nervous disease could be traced in the case. During the periods of paralysis, however, the remarkable fact was observed that the nerve-trunks and the individual muscles in the affected limbs had completely lost their electric excitability even under the irritation of a very strong current. At other times, the reactions were quite normal, but slight differences between the two sides persisted for some time after the complete return of voluntary movement. There was no sign of rigidity or contraction in any of the muscles during the attacks, nor were the general sensations disturbed. The plantar reflex was absent, but the cremaster and abdominal reflexes and the knee-jerk were normal. The latter was at times unequal upon the two sides. The fullest particulars of each seizure are given in detail in Dr. Westphal's paper. The progress of the paralysis of the limbs could be clearly described by the patient, who remained quite sensible throughout. In the early history of the case, there was reason to believe that scarlatinal nephritis had formerly been present, but the renal and all other functions remained normal throughout the period during which the patient was under observation. The onset of the attacks was attributed to exposure to a draught, the boy having complained the day before of indefinite sensations in the limbs, and pains in the feet. He became quite powerless in the following night, and suffered from great thirst, a feeling of extreme heat, and profuse sweating. At first the attacks of paralysis recurred at intervals of four to six weeks, but became more frequent, at last sometimes appearing many times in one week.

In his remarks upon the case, Professor Westphal cites three other published cases as bearing some relation to this apparently unique form of paralysis. In all of them there were points of resemblance to it, although none could be said to be identical. Especially with regard to the periods of recurrence, there was a marked difference, as in two of them the attacks followed a regular quotidian or tertian course. In all the cases the paralysis began in the lower extremities. The muscles of the face and of the eye remained unaffected in all, nor was any affection of bladder or rectum observed. The loss of electric contractility and its rapid recovery are conditions apparently quite peculiar to Westphal's case. In relation to it he says: "We know of no disease either of the spinal cord or of the spinal nerves in which anything similar to it has ever before been observed, and as regards any explanation of it, physiology leaves us completely in the dark." The sensations of heat and the extreme sweating experienced by the patient suggest the possibility of some profound alteration of the vascular supply, and hence of the nutrition of peripheral nerve-endings, but such an explanation is of necessity purely conjectural.—*The Medical Times*, August 29, 1885.

Suppurative Epiglottitis, complicated with Edema of the Glottis, and followed by Death from Asphyxia.

Dr. FREDET reports the case of a young man, who, after drinking and singing a great deal, became involved in a quarrel and was severely choked. Near

midnight he left the inn where the quarrel occurred, very warm, while the night was damp and cold, to go to his home. While on the road he experienced considerable difficulty in respiration, and said to his friends that he attributed his trouble to the pressure made upon his neck by his assailant. Disturbance of respiration became more intense, and the suffocative attacks so much increased in violence that it became necessary to carry the patient home, where he died an hour and a half after his departure from the inn. The rapid death and the changes made by the deceased previous to his death rendered it probable that the injury received was cause of death, and the assailant was arrested. Post-mortem examination showed the following conditions: The neck was enlarged and presented a circumference greater than normal; the swelling of the neck was not caused by enlargement of the thyroid body, and there was no ecchymosis or wound, as a result of pressure from the fingers. Incision showed that the vessels of the neck were partly dilated, and a very great quantity of blood flowed from the thyroid vessels, which were tense and congested. The whole respiratory apparatus having been removed, the following lesions were noted:—

1. Œdema of the uvula, which was as large as a small walnut.
2. Œdema of the epiglottis, which was the shape of a large cork; and the same condition was manifest in the aryteno-epiglottic folds and intra-ventricular space.
3. Contraction of the orifice of the glottis, evidently caused by the excessive hypertrophy of the epiglottis.
4. Finally, on incising the superior face of the epiglottis, pus in volume equal to a small walnut escaped.
5. The cartilages were neither fractured nor necrosed.

A frothy and sanguinolent fluid occupied the trachea and the calibre of the greater bronchij; the lungs were hyperæmic and livid; the cavities of the heart were filled with clots; and the patient had died from mechanical asphyxia—sufficiently explained by the lesions above enumerated.

On consulting the relations of the deceased, it was learned that he smoked and drank to excess, and had had the *voix enrouée*, and accordingly was afflicted with alcoholic laryngitis. The inflammation of the various portions of the larynx was therefore not recent, and the œdema of the tissues, if not the abscess revealed by the autopsy, dated back many weeks, and possibly months. The inflammation was increased by the singing, shouting, and quarrelling, and the sudden passage from an overheated room into the cold and damp atmosphere of the street explained the increase of œdema. The prisoner consequently was released, all the circumstances failing to justify placing the responsibility for the death of the patient upon the choking done by him.—*L'Union Médicale*, June 25, 1885.

Irrigation of the Stomach in Ileus.

DELPRAT, in *Nederl. Tijdschr. voor Geneeskunde*, 1885, No. 13, reports two cases of ileus treated by irrigation of the stomach, in the clinic of Professor Pel. The first, a young man aged twenty-eight, had for some time difficulty in defecation, with its final failure, which, when he was first seen, had persisted for four days. Pulse was small and frequent. Persistent hiccough. Movement of the distended intestine was perceptible through the abdominal wall, and vomiting of thin fluid fecal matter was present.

Treatment for two days with opium and enemata was without effect.

Irrigation was then tried and gave immediate relief, the distension of belly at once diminishing, and the vomiting and hiccough ceasing. During three successive days irrigation was practised seven times. The fourth day, no movement of the bowels having occurred, and the belly being still distended, and the pulse having become smaller and more frequent, laparotomy was performed in the right meso-

gastric region. No cause of constriction was found, but the inflated intestine was sutured in the abdominal wound and opened. The night succeeding the operation flatus and liquid feces passed per rectum, and on the third day there was a copious alvine discharge. The patient recovered.

The second case was a woman aged thirty-seven years, who for some time had been treated for pain in the stomach and very difficult defecation, for which enemata were given. After the patient had been treated two weeks symptoms of intestinal occlusion supervened, and a few days later stercoraceous vomiting took place.

During three days, in which abdominal irrigation was made, there was cessation of the stercoraceous vomiting, but neither flatus nor defecation was present.

Soon after the use of the stomach-syphon a tumor made its appearance in the ileo-cæcal region.

Laparotomy was performed by Professor Tilanus, and the tumor was found almost entirely to occlude the lumen of the intestine. Resection of the cæcum and small intestine was performed, and was followed on the fifth day by death from perforating peritonitis.

Delpat concludes the report with the remark that, since improvement in each case took place from the irrigation, it should in all cases of ileus be a first resort, and further remarks that where this measure fails laparotomy may still afford means of relief.—*Centralbl. für Chirurgie*, August 1, 1885.

The Physiology of Hepatic Colic.

N. P. SIMANOWSKY (*Zeit. Klin. Med.*, Band V.), with the aim to elucidate the physiology of hepatic colic, has recently undertaken a series of experiments upon dogs.

He first established a biliary fistula and afterward submitted the gall-bladder to different forms of irritation. As a result of his experiments, the following conclusions were reached:—

1. The introduction of electrodes or of any other foreign body into the gall-bladder produces violent pain.
2. When the electrodes are introduced or withdrawn, pain, similar to that caused by spasmodic contracture of the walls of the gall-bladder, is produced.
3. The pulsations of the heart are increased in frequency under the influence of feeble electric currents. They are diminished by strong currents and the cardiac rhythm is disturbed.
4. When the electrical stimulation is maintained for a considerable period, the cardiac activity diminishes. Under the same conditions the same effect is observed with feeble currents.
5. Electrical excitation increases the frequency of respiration (twenty to seventy respirations per minute). Strong excitation causes a momentary arrest of respirations.
6. The rectal temperature is elevated during excitation. There is no relation between this effect and violent movements on the part of the animal.
7. The temperature of the skin taken at symmetrical points of the body presents great variation under such excitation of the gall-bladder, being frequently elevated on one side and depressed on the other.
8. At the termination of such experiments, paresis of the posterior limbs was not infrequently observed. In some cases this condition persisted for several months.
9. Excitation of the gall-bladder frequently produced vomiting.
10. Excitation always produced increased blood-pressure, provided that the vagus had not been previously divided in the neck.—*Revue des Sciences Médicales*, July 1, 1885.

Lymphoderma Perniciosa.

Under this title Professor KAPOSI, of Vienna, has lately described in detail a case of what he believes to be a hitherto undescribed form of skin disease. A widow, æt. 39, had suffered for more than a year from an eruption, which passed at first for universal chronic eczema. On admission to the hospital the face and hands were chiefly affected, but the skin of the scalp, forehead, face, ears, and neck was of a diffuse brownish-red color, thickened, desquamating, and with honey-like crusts here and there. In the clavicular regions, upper part of chest, and axillæ, the submammary folds were reddened more or less, and desquamating or oozing. On the abdomen and back were similar patches. The extensor aspect of the upper limbs was the seat of a certain degree of desquamation, and the skin of the wrists and hands was thickened, scaly, cracked, and oozing in places, whilst the inferior extremities were less affected. The inguinal and cervical glands were swollen to the size of nuts, and firm. No visceral disease was detected, and the temperature was normal, but violent itching accompanied the eruption. On the left thenar eminence and the flexor aspect of the forearms were to be felt in the subcutaneous tissue several firm nodules, in size from a pea to a pigeon's egg, fairly well circumscribed. From her admission till six months later, when the woman suddenly died after an acute paralysis of the left inferior extremity the day before, the nodosities steadily increased in number in the deep cutaneous and the subcutaneous tissue of the flexor aspect of the forearms, breasts, epigastrium, abdomen, face, etc. They softened and ulcerated through and became covered with crusts. The face became enormously swollen and leontastic, and the ears stood out from the head. The spleen soon became enlarged, and a serous infiltration of the skin set in with ascites. The lymphatic glands became involved, and a progressive diminution of red blood-corpuscles was traced. At the necropsy the spleen was four times its normal size, the liver voluminous; some small nodosities were found in the lungs and beneath the pleura, and the medulla of the bones seems to have been affected. The skin and lung tumors were all of the same character, and the former apparently originated near fat lobules. They were composed of a delicate fibrillar stroma, deprived of vessels, with connective-tissue corpuscles poor in protoplasm in places where cells, resembling lymph-cells, and lymphoid nuclei occurred aggregated in extremely dense masses free in the intercellular spaces.

Professor Kaposi refers shortly to cases described as *lymphadenie cutanée* by French authors, which have been described, if we remember rightly, as preceded by eczema, but he refuses to acknowledge the identity of the affections.—*The Lancet*, August 29, 1885.

Treatment of Tape-Worms.

Dr. BÉRENGER FÉRAUD concludes a long series of investigations upon the treatment of tape-worm, with the following estimate of the comparative value of the therapeutic agents generally employed for their removal. He says: Among the remedies employed by marine physicians, calomel, sea-salt, garlic, bark of the mulberry-tree, and eucalyptus do not appear to possess any value; turpentine and *noix de coco* are too rarely beneficial ordinarily to warrant their employment.

Fern, as a remedy, merits further study, in order that its real value may be determined.

Pumpkin-seed possesses only a slight therapeutic value, though it sometimes brings about the complete expulsion of the worm.

Koussou, entirely fresh, is an excellent tæniifuge, but rapidly deteriorates with age, and is thus rendered inert.

Pomegranate is, in our present state of knowledge, the *tœnifuge par excellence*. The bark, obtained from a tree sufficiently young and in active growth, produces the best results. However, as it is demonstrated that the good results obtained from the use of the pomegranate-bark are due to the pelletierine contained therein, and that this principle varies with the age and condition of the bark and with the part of the tree from which it is obtained, the pelletierine is to be preferred to the bark, just as quinine is to be preferred to the crude bark of which it is an alkaloid; and furthermore, the exact dose of pelletierine can be precisely determined, a result not always possible to be attained with the pomegranate bark.

In order to obtain the complete effects of pelletierine, it is necessary to employ it according to determined rules and with certain precautions, of which the following are the principal:—

When the diagnosis of the presence of a tape-worm is established, inquiries should at once be made as to the ease with which the patient is purged. The evening of the day previous to that on which it is determined to attempt the expulsion of the tape-worm, the patient should be put upon milk diet, pure milk, bread and milk, rice and milk, eggs and milk, egg custard, or cream; and all other food prohibited, in order to have the digestive tract entirely free from all substances which can in any way destroy the efficiency of the drug. The day on which the attempt to expel the worm is to be made, the patient should remain in bed, and at 6 A. M. receive an infusion of senna, containing from $2\frac{1}{2}$ to 4 drachms of the leaves in about 3 ounces of water sweetened with an aromatic syrup. At $7\frac{1}{2}$ A. M., the patient will receive one-half the prescribed quantity of pelletierine, the full dose being 6 grains of the tannate. Immediately after receiving the first portion of the *tœnifuge* the patient should recline with closed eyes, and as far as possible remain perfectly quiet, to escape nausea and vomiting. At 8 A. M., one-half hour after the first dose of pelletierine, the second portion is to be administered, and if no nausea has been experienced by the patient, it is to be followed immediately by the purgative already referred to. If, on the contrary, nausea exists, the administration of the purgative may be deferred from fifteen to thirty minutes, but *no* longer. The dose of the purgative is graduated according to the facility with which the patient is affected thereby. After its reception the reclining position is to be maintained as before advised. When the drug is beginning to act, as is evidenced in increased intestinal peristalsis, the desire to go to stool is to be withstood as long as possible. If, on the contrary, the purgative does not seem to be sufficiently prompt in its action, a purgative enema should be administered, containing $2\frac{1}{2}$ drachms of senna leaves and 10 drachms of soda sulph. This injection should indeed be administered in all cases when the desire to go to stool is first experienced, inasmuch as it distends the intestine and thus renders the expulsion of the parasite more easy. In some cases Dr. Féraud introduces infusion of pomegranate-bark, about 1 ounce boiled in $6\frac{1}{2}$ ounces of water till reduced to about 5 ounces, to which are added 10 drachms of soda sulph. in water sufficient to make the whole mixture equal to $6\frac{1}{2}$ ounces. The effect obtained is to bathe the parasite already stupefied in the decoction of pomegranate, and the procedure is recommended as being generally advisable when the patient goes to stool. The vessel used should be of ample size and half filled with warm water, so that if the worm is not expelled entire, the part first escaping will be sustained by the water and thus be less in danger of breaking. After the first stool, examination should be made to discover whether the parasite has passed entire or remains partly within and partly without the rectum. If it has apparently passed entire, search should be made for the head.

If the worm remain partially within and partially without the anus, no attempt should be made to pull it away from the rectum, but injections should be carefully

made until they have the effect of dislodging it. Too much stress cannot be laid upon the importance of refraining from all attempts to remove it by traction. If the removal of the worm has not been accomplished, large doses of mineral purgatives are at once to be administered in order to obtain further purgation as quickly as possible. In this treatment of tape-worm it may be put down as an axiom, that if purgation is slow or insufficient there is very great risk of failure.

The impediments to success in this method of treatment may be:—

(A) Vomiting.

(B) Insufficiency of purgation.

(A) Should vomiting occur as a result of the administration of the pelletierine, a second dose should be given in an amount regulated according to the time the first dose was retained. If vomited a quarter of an hour after its injection, it should be estimated that one-fourth of the drug was absorbed, and if after a half hour that it was one-half absorbed, and so on. The degree of nervous excitement produced by the first dose should always serve to indicate whether an entire or partial dose should be subsequently administered. In no case should a third dose be given.

(B) Insufficiency of purgation should be remedied as above indicated.—*Bulletin Général de Thérapeutique*, May 30, 1885.

SURGERY.

Indications for the Extirpation of Goitre.

Dr. JOSEF ROTTER, in a paper on the operative treatment of goitre (*Archiv für Klin. Chirurg.*, Band XXXI., Heft IV.), points out that, before the surgeon performs extirpation of the thyroid body, it is desirable that he obtain some precise and reliable indications for a procedure so difficult and dangerous. The views of surgeons on the indications, whilst agreeing in general outline, still differ on several not unimportant points. Those who have been fortunate in their experience of this operation believe it to be almost quite free from danger, whilst those who have had less success are apt to over-estimate its dangers. More than 600 cases of removal of the thyroid gland have now been recorded; and during the last three years the mortality, it is asserted, has been about 10 per cent. Although some operators have had a much lower rate of mortality, and death from the operation might possibly have been avoided in some of the fatal cases, still removal of the thyroid body cannot be regarded as a procedure that is free from danger. Unexpected and serious complications are liable to occur in any instance, and the surgeon cannot estimate the probabilities of success so closely in this operation as, for instance, in amputation of the thigh. Still, though the difficulties and dangers of the operation cannot well be over-estimated, the surgeon must take into consideration the fact that the subject of goitre is exposed to many serious dangers, particularly that of very sudden and alarming attacks of dyspnoea.

Dr. Rotter holds that it is the duty of the surgeon to undertake extirpation of the enlarged thyroid body under any of the following circumstances: If the tumor have caused any attacks of extreme dyspnoea, this is a clear indication for the performance of the operation. It should be undertaken also if the goitre have caused such disturbance of breathing as to render the patient incapable of attempting any active bodily exertion. If, in a case of rapidly enlarging goitre,

the iodine treatment have failed, and the disturbances caused by the tumor have not been thus relieved, the surgeon should, without waiting for any attack of severe dyspnoea, strongly urge an early operation. In case of large goitre of long standing, alterations of the trachea are likely to take place, which may place the patient's life in danger before the operation, and afterwards may complicate the healing process. A fourth indication is presented by serious difficulty in deglutition. Finally, there are cases in which the operation, though it cannot cure the patient, may relieve him of some condition that renders life intolerable; such, for instance, as those of an incurable thyroid fistula and of a goitre which, by its great size, prevents the patient from pursuing his occupation.

The existence of a suffocating goitre is naturally no contraindication, but rather an absolute indication for extirpation. On the other hand, under the remaining circumstances, the surgeon should hold his hand when the patient presents an unfavorable general condition which cannot be attributed to the disease of the thyroid body. In the case of any associated morbid condition which is clearly due to the presence of the goitre, this restriction is not to be observed. A calcified and fixed goitre should not be interfered with, except in the presence of some pressing indication. Recent improvements in operative methods have rendered possible the extirpation of very large and broadly based goitres.

In the opinion of Wüller and Higgnet, extirpation of the thyroid should not be performed on patients above the age of 60. Liebrecht, however, reports that the three oldest patients on whom he operated, and who were between 60 and 70 years of age, all recovered. In the tables collected by the author of cases under Professor Maas and others, it is shown that of twelve persons above the age of 60 on whom strumectomy was performed three died, but the fatal result was due in one case to septic poisoning, and in another to hemorrhage, causes which certainly are not peculiar to old age. The third patient died from pneumonia on the twenty-first day from that of the operation. Advanced age, therefore, cannot be regarded as a contraindication of the operation. Liebrecht advises that the operation should not be performed on any subject with extreme atheroma of the vessels. Dr. Rotter, however, alludes to a case in which, though the patient was affected with this condition in a high degree, the operation was not followed by hemorrhage or any other complication.

In considering when it is necessary to perform total and when only partial extirpation of the thyroid body, Dr. Rotter states that the minor operation should be applied to those cases in which but one lobe is enlarged, and this affected lobe is connected with a healthy portion of the gland by a thin and narrow pedicle. In regions where goitre is endemic the extirpation should always be total, in order that relapse may be prevented. It has been proved by the tables of Wüller and Liebrecht, that partial is not less dangerous than total removal. Dr. Rotter does not share the view of Kocher and Reverdin with regard to the so-called cachexia strumipriva as a special danger after total removal. The symptoms of this cachexia, it is held, are marked by the unmistakable impress of cretinism. This condition of cachexia, according to H. Bircher, occurs as a consequence, not of absence of the thyroid body, but of a chronic general condition, which causes in its first stage the development of goitre, and, in its second stage, symptoms of cretinism. The subjects of excision of the thyroid body become cretins, not because the gland has been extirpated, but because they remain in districts where goitre is endemic, and expose themselves to further infection. Rotter also takes this view, and therefore does not regard the so-called cachexia strumipriva as a contraindication of total extirpation of goitre.—*London Medical Record*, July 15, 1885.

Diaphragmatic Hernia in an Adult.

M. A. CAYLA, at a meeting of the Société Anatomique, held November 21, 1884, presented specimens taken from an adult patient in whom existed a diaphragmatic hernia.

The man was thirty-two years of age, of good constitution, and a worker in lead, but showed no symptoms of lead poisoning.

On being admitted to the Hôpital Dieu he related that five days previously he was seized, while lifting a heavy piece of metal, with a violent pain in the left lower side of his chest. Notwithstanding the pain he continued work, and even ate his dinner, without discomfort. Two hours subsequently, however, he was seized with violent vomiting accompanied with great pain in the epigastrium.

The patient further stated that six years previously he was suddenly seized with vomiting and constipation, and that these symptoms had been regarded as the result of lead poisoning.

Examination now made failed to discover the cause of the symptoms. Palpation gave no evidence of internal obstruction, and hernia did not exist.

The belly was retracted, and painful to pressure in the epigastrium. The condition of the patient gradually grew worse, and he died in collapse three days after admission to the hospital.

Post-mortem examination. The small portion of the abdominal cavity occupied by intestines first attracted attention. The liver occupied the entire epigastric depression. The stomach was not visible, and on raising the liver it was still undiscoverable. The greater omentum was massed below the inferior border of the liver, and beneath the diaphragm was found an omental mass which concealed a hernia of this organ, through which the stomach had passed into the thoracic cavity.

Examination made of the thorax revealed the following conditions:—

The entire stomach, much dilated, and almost filled with liquid, occupied the left thoracic cavity, the lung of which side being crowded into the upper portion of the thoracic cavity.

The cardia and pylorus were situated in the abdomen. At the level of the hernial orifice the stomach was twisted upon its axis, so that a finger with difficulty could be introduced into the ring, and the hernia reduced.

The stomach at the seat of the stricture was of a darkish-red color, and upon its greater curvature there was a loss of mucus and muscular tissue, together with small superficial erosions. The œsophagus was not dilated. The orifice in the diaphragm was circular, and situated in the fleshy portion of the muscle between its left and middle leaves.

The peritoneum seemed to be directly continuous with the pleura, and no envelope of the stomach constituting a hernial sac was present.—*Le Progrès Médical*, August 8, 1885.

Splenotomy in Leukæmia.

BIZIEL, in *Przegląd lekarski*, 1885, No. 14, records the following case of splenotomy in leukæmia, in which the operation was performed by Dr. Rydygier. The patient, a woman aged thirty-one years, had noticed for two years a tumor in the right hypochondrium. The swelling rapidly increased, and, through its size, occasioned considerable annoyance. Examination showed the existence of pronounced leukæmia. In view of the great risks incurred in splenotomy the patient was persuaded to postpone the desired operation. At the end of ten months the patient returned, insisting upon removal of the organ because the pain caused by the tumor had constantly increased, and was no longer endurable. The

spleen was now more than twenty inches long, hard, and slightly movable; and the proportion of white blood-corpuscles was considerably increased. The condition of the patient was such that she was unable to walk or stand, and during the last month she was compelled to keep her bed. Dr. Rydygier now consented to operate, and on October 3, 1884, performed splenotomy.

The abdominal wound bled more profusely than is common. The spleen was removed with comparatively little difficulty. The pedicle was tied with elastic and silk ligatures, and in order to prevent the slipping of the ligatures a small portion of the spleen was left at the hylus. The abdominal wound was closed and corrosive dressing applied. The temperature rose on the day of the operation to 103.1° Fahr., and the pulse was weak and 136. On the following day the temperature fell to 101.3° Fahr. and the pulse to 120.

The patient died from weakness twenty-four hours after the operation. Death resulted from the hemorrhage from the abdominal incision which was caused by the defective coagulation of the leukæmic blood. The ligature of the pedicle was firm. Of 20 splenotomies performed in leukæmia only 1 (operated on by Franzolini, and not certainly a leukæmic tumor) recovered, and Dr. Biziel justly concludes that operative interference in tumor of the spleen of leukæmic origin is not indicated.—*Centralbl. für Chirurgie*, July 18, 1885.

The Pathogenesis of Umbilical Fistulæ.

J. CASTEL (*Thèse de Paris*, No. 56) classifies umbilical fistulæ, according to their origin, under the following heads:—

1. Fistulæ consecutive to an inflammatory process of an acute nature, such as suppurating peritonitis determining an abscess at the level of the umbilicus, puerperal peritonitis, the idiopathic peritonitis of infancy (Gauderon), and perforating peritonitis of Féréol.
2. Fistulæ consecutive to chronic phlegmasia of the peritoneum, i. e., tubercular peritonitis, hydatid cysts, etc.
3. Entero-umbilical fistulæ (hernial, or diverticular, or fistulæ resulting from the presence of foreign bodies, or entozoa).
4. Unbilical fistulæ of hepatic origin (i. e., caused by biliary calculi, hydatid cysts, or abscess of the liver).
5. Urinary fistulæ consecutive to persistent permeability of the urachus, some forms of which are congenital, and owing to which the patient may or may not be prevented from voiding his urine by the natural channel through a defect in the conformation of the parts, while others occur in the adult at a greater or less interval after birth, as a result of permeability of the urachus, and a consequent obstacle to the course of the urine.—*Revue des Sciences Médicales*, July, 1885.

Laparotomy in Cases of Perforative Peritonitis.

Prof. M. OBERST, of Halle, in a paper on a case of perforative peritonitis treated by laparotomy (*Centralbl. für Chirurg.*, No. 20, 1885), states, with regard to the operative treatment of acute septic peritonitis, that a favorable result from incision, antiseptic cleansing, and drainage can be expected only in cases in which either the infective focus has been localized through adhesive inflammation, and a more or less circumscribed abscess has been formed, or when, with diffuse peritonitis, operative treatment has been applied early, and before the formation of extensive adhesions between the coils of intestine. In most cases, however, of acute septic peritonitis, it is difficult to make out whether the inflammation be diffused or circumscribed, and in the latter case there would be a risk,

in the performance of laparotomy, of breaking down the adhesions by which the infective material is confined. In acute peritonitis, due to intestinal perforation, the diagnosis is not, as a rule, attended with any special difficulty. Acute peritonitis sets in with unmistakable symptoms, and experience teaches that, with treatment of an expectant character, or applied simply to symptoms, death almost invariably ensues, as a result of diffused inflammation of the serous membrane. It is thought that, by performing an early laparotomy in cases of this kind, and by washing out the peritoneal cavity, and closing the wound in the intestine, many a life that would otherwise be surely doomed might be saved. A successful instance of such treatment has been recorded by Mikulicz. The patient was a man, aged 40, who, during a rapid movement, was seized with pain in the abdomen, and very soon afterwards presented symptoms of ileus and peritonitis. Seventy-two hours after the occurrence of the first symptoms, Mikulicz performed laparotomy, and found in the abdominal cavity nearly two pints of fetid pus, and some undigested pieces of potato. A perforation, about six centimetres in length and four centimetres in breadth, was found in the ileum. The margins of this were cut away, and the opening then closed by a dozen silken sutures. The peritoneal cavity was carefully cleansed, and the external wound closed by sutures. The perforation in this case had occurred, Mikulicz thinks, at the seat of a typhoid ulcer.

The case recorded by Professor Oberst is one which commenced in strangulation of an old scrotal hernia. The patient, aged 48 years, was admitted into the hospital at Halle on the fourth day, and then was much collapsed, and presented symptoms of intense peritonitis. Herniotomy was at once performed, but it was found that the sac, which was much distended by turbid and fetid fluid, did not contain any intestine. On opening the abdominal cavity by an incision which reached as far as the umbilicus, a considerable quantity of purulent fluid was set free; and the intestines were found much distended, and covered by a thick deposit of recent inflammatory lymph, by which adjacent coils were glued together. After a prolonged search a small orifice, from which exuded fecal fluid, was found in a loop of intestine deeply secluded in the abdominal cavity. The intestine was completely divided at the seat of this lesion, and the two ends fixed by sutures to the margins of the external wound to form an artificial anus. The cavity was then washed out with a warm solution of salicylic acid, and the inflammatory deposit scraped away from the surface of the intestines. After several drainage-tubes had been inserted into the peritoneal cavity, the external wound was closed by sutures. The patient rapidly recovered from the collapse, and during the first two weeks after the operation progressed favorably. Subsequently he became very weak, and in the ninth week died from extreme exhaustion, the fatal result having been accelerated by hypostatic pneumonia and the effects of decubitus.—*London Medical Record*, Aug. 15, 1885.

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Successful Case of Laparotomy for Intestinal Obstruction.

Dr. JOSEPH B. HEALD reports a case of successful operation in a man twenty-five years old, for intestinal obstruction, apparently resulting from a severe fall. After the accident, constipation occurring, the patient without advice took Epsom salts to relieve the condition, with the result of producing great discomfort and pain, though at the same time causing a slight movement of the bowels. Three compound cathartic pills taken later failed to produce any result whatever. Three days after the accident Dr. Heald was called to see the patient, who, failing to be relieved by large enemata of water and hypodermatic injections of atropia and morphia, consented to operation as affording the only prospect of recovery. The operation was performed by Dr. John C. Irish as follows :—

The patient being under ether the abdomen was opened in the median line by an incision seven inches long, reaching from the umbilicus to the pubes. Owing to the tense condition of the recti muscles, the incision was extended an inch above the umbilicus, and the left rectus muscle was divided at the left of the umbilicus.

We could learn nothing from inspection with the bowels *in situ*, on account of the extreme distension of the intestines from accumulated gas; nor could anything be ascertained by sense of touch with the hand in the abdominal cavity. Therefore the intestines were rapidly but carefully drawn out until about fifteen feet of them lay upon the abdomen, when sharp resistance was felt and the increased congestion of the intestines showed the constriction was reached. Dr. Irish then passed his hand into the abdominal cavity and withdrew the invaginated portion and relieved the obstruction.

At the location of the intussusception, which was ileo-cæcal, the bowel was intensely congested and somewhat darkened in hue. The invaginated portion, about three inches in length, was thickly studded with deposits of lymph. The congestion extended up the ileum only a few inches above the obstruction. The remainder of the small intestine appeared to be free from any inflammatory action. It was, however, greatly distended with gas, and in the lower portion of the ileum near the site of the invagination the distension had become very great. The colon was free from congestion and flaccid.

Up to this time the bowels outside the abdomen had lain perfectly quiet and dormant; but when the constriction was relieved, there was a sudden rush of gas, and the peristaltic action of the intestines started up, and gas escaped from the anus together with a large, thin, feculent discharge. The intestines were replaced with comparative ease, and the incision closed with silk sutures and adhesive straps. There was profound shock during the manipulation of the bowels, though the time of exposure was not more than five minutes. Our hands were washed in a five per cent. solution of carbolic acid, and the instruments and sponges were immersed in a solution of the same strength. The wound healed throughout by primary union. Stitches were removed on eighth and ninth days, and patient sat up on fourteenth day.

On the third day after the operation only did the temperature of the patient exceed 100° degrees F., at that time reaching 101°.

Dr. Heald believes this to be the first reported case in America of laparotomy successfully performed for intestinal obstruction.—*The Boston Medical and Surgical Journal*, September 3, 1885.

Umbilical Hernia. Operation after Seven Days' Incarceration.

Dr. W. GELLER reports a case of umbilical hernia in which operation was performed seven days subsequent to incarceration, June 6, 1885. Dr. Geller was called to the patient, a woman who had already been confined to bed for three days. The first symptoms were severe pain in the abdomen, accompanied by constipation and violent vomiting. The patient was 46 years old, and had borne six children after normal pregnancy, but during the seventh pregnancy she aborted, since which a small swelling in the umbilical region had been present. She, however, had until the present time experienced no inconvenience therefrom. The patient was disposed to constipation, and sometimes, though seldom, three or four days elapsed without movement of the bowels. On June 2 she experienced pain in the umbilical region, and extending to the pit of the stomach, apparently as result of a cold.

Vomiting, also, soon came on, and occurred with the advent of each attack of pain. Constipation next became established, and persisted in spite of all

efforts to relieve it. Flatus in the mean time was absent, and hiccough still further complicated her condition.

Examination showed the face of the patient flushed and anxious, respiration frequent and superficial, but nothing abnormal could be detected in the condition of the thoracic viscera. The abdomen was much distended, painful on palpation, and tympanitic on percussion.

In the region of the umbilicus a tumor was present, round, and the size of an apple, hot to the touch, and extremely painful. The pulse was 120, temperature 100.4° F., respiration 36. Diagnosis incarcerated umbilical hernia.

The treatment was morphia with aq. laurocerasus, and warm baths, during which attempts were made to reduce the hernia by taxis. No success attending the treatment, a consultation was called with reference to the advisability of operation, and the conclusion reached that it was unadvisable.

June 7, the condition of the patient remaining the same, the preceding treatment having been continued, the patient urging operation, a second consultation was called, with the same result as that of the previous day. The treatment then pursued was morphia as before, with fragments of ice, cold applications, and copious injections. The condition, nevertheless, persisted unchanged, and now after more than seven days the family of the patient, notwithstanding the dissent of the consulting physicians, insisted on operation. Strange to say, in spite of the long incarceration, the intestine, though of an intensely violet color, showed no sign of gangrene. The operation was conducted with the greatest antiseptic precaution.

The hernia was composed of about five inches of the intestine, with scarcely any fluid. The incarceration was caused by the umbilical ring, which was so small as to fail to admit the end of the little finger, and dilatation therefore was made by a catheter, after which the introduction of a finger was possible.

After careful inspection and cleansing, the intestine was replaced. The greater portion of the hernial sac was removed, and after the introduction of a suture and application of a bandage the patient was put to bed and laudanum administered internally. Three hours later there was passage of flatus, and also movement of the bowels. The patient was in good condition, and lamented the postponement of the operation. The only unfavorable manifestation during convalescence was sloughing of the edges of the external wound. This, however, did not prove serious, and on the 20th of June the wound was entirely healed.—*Wiener Med. Presse*, July 19, 1885.

Hydronephrosis or Omental Cyst.

At a recent session of the Society of Russian Surgeons a female patient was shown who had been admitted into Professor PELYOHN's clinic with a huge tumor on the right side of the abdomen. The greatest circumference of the abdomen was ninety-five centimetres. The patient noticed the tumor seventeen years ago, it being the size of a fist. Afterwards it gradually became larger. Examination showed the existence of a tumor in the neighborhood of the right kidney, which on percussion gave a dull note, this dullness being continuous with that of the liver. Nevertheless, it was evident that the tumor was independent of the liver. It was slightly movable. The diagnosis lay between hydronephrosis and an ovarian tumor. The apparent connection with the uterus favored the latter view. The operation was performed on March 12th. When the peritoneal cavity was opened a cystiform tumor appeared, invested with a membranous formation, the vessels of which ran parallel to one another. No connection was found between the tumor and the uterus. Having divided the investing membrane, the tumor itself was opened, and it presented an immense cavity into

which the hand when inserted penetrated as far as the diaphragm. In the upper part of the tumor a contraction existed, through which, however, the hand passed easily. No remnants of renal tissue could anywhere be discovered. Part of the tumor was excised, the remainder of the wall sewn to the peritoneal wound, and the cavity plugged with iodoform gauze, which was subsequently replaced by corrosive sublimate dressing, as the patient began to show symptoms of iodism. On examination, the liquid from the tumor, the quantity of which was 1000 grammes, was found to contain urea in almost the same proportion as that in which it exists in urine. Subsequently no urea was found in the secretion of the remaining portion of the tumor.

Professor Polyohin, in his remarks on this case, said he was inclined to think that the tumor was not a hydronephrosis, but an omental cyst. In favor of this view were: (1) the number and disposition of the vessels; though most of those in the membranous investment were parallel to one another, some of them presented another arrangement, being interlaced with the parallel ones; (2) the laminar character of the structure; (3) the possibility of penetrating up to the diaphragm; (4) the constriction in the cavity, which might be the foramen of Winslow; and (5) the presence of depressions in the posterior wall of the cavity, this feature being peculiar to the peritoneum, which forms various protrusions.—*The Lancet*, August 29, 1885.

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*Traumatic Rupture of the Urethra; Urinary Infiltration and
 Recidivous Fistula*

At a meeting of the Société de Chirurgie de Paris M. TERNIN read a report upon a paper of Dr. Cabadé, with the above title. The patient was a boy aged thirteen years, who, from a height of about ten feet, fell astride the ends of the staves of a headless barrel. M. Cabadé discovered swelling of the perineum, especially at the peno-scrotal junction, no appreciable fluctuation, but great pain upon touch, and slight ecchymoses. The scrotum was clammy and the penis in a state of semi-erection; no blood at the meatus. The bladder was full, and in efforts to urinate a few drops of blood escaped from the urethra. Temperature 99.5° F. Treatment, rest and application of cold compresses upon the perineum. The succeeding day after an uncomfortable night the symptoms were all aggravated. Retention of urine absolute; the scrotum, as well as the penis, was oedematous. The parents of the boy refused to allow deep perineal incision to prevent infiltration of urine, and accordingly only scarification was practised. The day following the perineum was livid and gangrenous in appearance. The scrotum was oedematous and dark, and the thighs were also the seat of an oedematous infiltration. Deep perineal incision was now practised, and a sanious fluid mingled with urine escaped. Two additional incisions were also made in the livid and indurated scrotal tissue.

By this treatment the general condition of the patient was improved, the urine draining off freely through the incisions, though considerable oedema of the prepuce still persisted. Five days after the accident, attempt to catheterize the bladder failed. A second attempt also was unsuccessful. A third effort, one week subsequent to the accident, with an olive-pointed bougie, was successful, but, on account of the pain produced, was necessarily withdrawn. Subsequently the patient was anesthetized, and catheterization attempted, but unsuccessfully, both by the urethra and perineal wound. M. Cabadé at this examination found that the urethral canal was divided, so that the sound, after having passed through the penile portion of the urethra, refused further progress. At this juncture of the examination it became necessary to desist, owing to trouble of respiration due

to the chloroform. At a subsequent examination entrance was made into the bladder with a probe by observing the point in the perineum at which urine escaped during efforts of micturition. A bougie was then introduced, and over this a catheter open at both ends. The sound thus introduced was exposed in the perineum for a distance of two-thirds of an inch. It was retained two days, withdrawn and replaced for four days, when an intense urethritis again necessitated its removal. However, at this time, the perineal wound was nearly cicatrized, and urination in great part accomplished by the penile portion of the urethra. Catheterization was performed daily with a No. 15 bougie (French scale). In May, 1884, M. Cabadé was again called to see the child, who for some time had been under the care of his parents only. Catheterization, which had at first been easy, gradually becoming more difficult, had been at length abandoned, and, from the rapid narrowing of the urethra and the consequent dilatation, a urinary pocket was formed in the perineum. This sac M. Cabadé incised, catheterization being impossible, with immediate relief to the child.

In the beginning of June, 1884, after preparatory dilatation of the perineal fistula with sponge, the procedure above detailed was repeated. The operation again was temporarily successful, though finally catheterization again became impossible, and the perineal wound was reopened. The patient at about the same time was attacked with acute tuberculosis, which proved fatal in sixteen days.

The Treatment of Patients affected with Disease of the Prostate.

Dr. GUYON, holding that the normal physiological condition of those affected with prostatic disease is congestion, formulates the following treatment for the affection:—

1. The avoidance of all causes of general or local chill.
2. The proscription of over-eating and alcoholic excess, and in general avoidance of *abuse*, rather than the simple use of salads, meats, fish, shell-fish, white wines, and champagne.
- Not only should excess of irritating or alcoholic drinks be avoided, but also that of beverages in themselves inoffensive. For this reason the treatment of the affection by mineral waters should be advised with extreme caution.
3. *Voluntary and prolonged retention of the urine* should be avoided, as being conducive, in those affected with prostatic disease, to the production of retention of the urine, cystitis, etc.
4. Moderate indulgence in sexual intercourse.
5. Consideration of the unfavorable influence exerted by prolonged horizontal decubitus and immobilization.

Prolonged rest in bed should be avoided, and before retiring, the patient, if possible, should, if unable to walk in the open air, promenade in his room for fifteen or twenty minutes, and in the morning such exercise should be repeated.

During the day sedentary habits should not be contracted, but at the same time fatigue should be avoided.

Constipation should be obviated, if existing, without the use of drastic cathartics. A large enema, warm or cold, in the morning exercises at the same time an evacuating and a soothing effect. Emollient enemata, before retiring, frequently also yield good results.

6. The functions of the skin should be excited by dry friction and massage.

Baths should not be continued beyond fifteen minutes.

Dr. Guyon next considers the medicinal treatment of the affection, and suggests—

1. As a remedy for the *sclerosis* of the urinary apparatus, the use of potassium

iodide in quantity varying from eight to fifteen grains daily, during fifteen days or three weeks of every month, and continued for months or years.

2. For the *congestive lesion*, the careful administration of ergot, nux vomica, and all preparations containing strychnia as a base, is advised.

3. As remedies for *vesical irritation*, belladonna, hyoscyamus, and the preparations of valerian will be found more inoffensive than opium and its derivatives, but nevertheless sufficiently active.

The bromides are considered to have in vesical disease only an insignificant effect, but in some cases this should be utilized.

The foregoing hygienic and medicinal treatment, Dr. Guyon considers, will in most instances suffice to overcome the functional disturbances experienced by prostatitis, and only when it fails should the use of the catheter be resorted to.—*Ann. des Mal. des Organes Génito-urinaires*, May, 1885.

Resection of the Body of the Sternum for Caries.

At a meeting of the Académie de Chirurgie de Paris, held June 17, 1885, M. LEON LE FORT reported a case of resection of the sternum for caries. The patient was a man 54 years of age, who, during the years 1879 to 1885, had had several abscesses in the sternal region. The patient was exceedingly emaciated. Several fistulous orifices existed over the sternal region, with thickened livid edges, from which escaped a darkish-yellow watery pus. At each inspiration of the patient the pus appeared at and receded from the orifices, but if the patient coughed or made any violent effort great quantities of pus escaped with a gurgling noise. It was evident, therefore, that these fistulae communicated with a large pus-containing cavity, and on trial about one ounce of liquid was injected. Examination, by percussion and auscultation, showed that there was no pleural thickening or any sign of pulmonary tuberculosis. Examination with a probe showed that the sternum was bare at the level of the fistula, and by strongly curving the sound it was introduced upon the posterior surface of the sternum, and demonstrated also an extensively denuded condition of the posterior surface. The probe did not penetrate into the pleural cavities. The patient was in a state of extreme feebleness, aggravated by the refusal of all food, and it was evident that death would speedily result, unless operative procedure should be successful.

On April 30, 1885, after having anesthetized the patient with chloride of methyl. M. Le Fort made a double transverse incision, united by a median incision, extending to the inferior part of the body of the sternum. With a cutting spatula, the two lateral flaps, comprising the skin and periosteum, were raised, thus laying bare the anterior surface of the bone. The fistulae, however, were not sufficiently large to permit the introduction of Liston's scissors, and accordingly the bone was cut two-thirds through by scratching with the point of the scissors. Then, by introducing a knife into the cleft so made, the bone was entirely cut through. This done, M. Le Fort cut the second and third costal cartilages on each side, by which he was enabled to raise the bone and pass his finger behind it, confirm the absence of the periosteum, and also protect the mediastinum and pericardium. The second, third, fourth, fifth, and sixth costal cartilages on each side were successively cut, and it was then possible to see that the periosteum was entirely adherent at the base of the ensiform cartilage, and at this point the bone was cut with Liston's scissors. Further examination showed the existence of diseased bone at the superior part, and this was removed. The interclavicular portion of the sternum fortunately was free from disease.

The wound made by the operation extended from the first intercostal space to the sixth. The borders were formed by the costal cartilages and intercostal

muscles; the bottom by a thickened but not soft membrane, covering uninterruptedly the mediastinal organs, and rising regularly at its inferior portion with the pulsations of the heart. The fragment removed measured four inches in length. Its anterior surface was healthy, but the deep surface was altered to some depth over its entire face.

The dressing consisted of compresses of tarlatan soaked in corrosive chloride solution of 6 grains to the quart. The immediate results of the operation were excellent, and it seems probable that recovery would have resulted had the patient partaken of food, but having become tired of life he persisted in his refusal, and died from inanition. He submitted to the operation, as was found out from a letter written to a friend, in the hope that he would die during its performance.

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The Anatomy of Spina Bifida, and its Treatment by the Injection of Iodo-Glycerine Solution.

Dr. R. W. PARKER, at a late meeting of the Clinical Society of London, presented the report of the committee appointed to inquire into this subject, of which the following is an abstract:—

Before attempting to discuss the results of treatment of spina bifida by Morton's or other methods, it was thought desirable to determine more clearly than had hitherto been done the pathological conditions included under that term. With this object, the committee undertook an examination of all the specimens of the deformity contained in the London museums, as well as in those in Cambridge and Glasgow, and sundry others placed at their disposal by different contributors to this report. The subject was therefore divided into two parts: first, the pathological anatomy of spina bifida; and, secondly, the treatment of the deformity.

I. *Pathological Anatomy.*—The term spina bifida was used to define certain congenital malformations of the vertebral canal, with protrusion of some of its contents in the form of a fluid tumor. With very rare exceptions, the malformation affected the neural arches of the vertebrae, and the tumor projected posteriorly; in rare cases, however, the bodies of the vertebrae were involved, and the tumor in such cases protruded anteriorly into the thorax, abdomen, or pelvis, between the lateral halves of the bodies affected. The museum specimens were discussed under the following, or some of the following, headings: 1, position of the tumor; 2, size and configuration of the sac; 3, coverings of the sac; 4, disposition of meninges within the tumor; 5, size and configuration of the deficiency in the neural arches; 6, disposition of the spinal cord and nerves; 7, unusual variations; 8, the process of cure. The result tended to show that the specimens fell under three chief divisions: 1, protrusion of membranes only (spinal meningocele); 2, protrusion of membranes, together with the spinal cord and its appertaining nerves (meningo-myelocoele); and, 3, protrusion of the membranes, together with the spinal cord, the central canal of which was dilated so as to form the sac-cavity, the innermost lining being constituted by the expanded and atrophied substance of the cord (syringo-myelocoele). As to the comparative frequency of these three varieties, the committee stated that the second, meningo-myelocoele, was by far the most frequent, while simple meningocele came next, and syringo-myelocoele last.

As a typical example of the common variety, a specimen now in the College of Surgeons was quoted. This was a case of lumbo-sacral spina bifida, of the size of a Tangerine orange, sessile, but constricted slightly at the point of attachment. The tumor presented normal skin for a short distance round its base, but the central portion consisted of a thin translucent membrane; along its vertical

axis the tumor was slightly furrowed, this furrow corresponding to the attachment of the cord to the inner surface of the sac-wall. The spinal cord ran almost horizontally across the upper part of the sac, and then became incorporated with the sac-wall, from which also the lowest nerves arose; they then passed across the sac to gain the intervertebral foramina, from which they issued normally. The anterior and posterior roots of the nerves were separated from each other by an exaggerated ligamentum denticulatum.

Concerning simple meningocele, and cases where there was dilatation of the central canal of the cord, little was said, except that they might very easily be mistaken one for the other; for both sacs were free from nerves, and a careful dissection was often necessary in order to distinguish them. In some cases of meningocele, with a large communication with the vertebral canal, the cord could be seen lying at the bottom of the sac in the vertebral canal, and then there could be no difficulty about the diagnosis. Besides these three chief varieties, mention was made of several variations; among these, the division of the sac into smaller loculi, and the occurrence of bony outgrowths across the vertebral canal, button-holing the spinal cord, were the most remarkable.

Careful microscopic examination of the sac-wall in a typical case of meningo-myelocoele had disclosed the continuation of the central nervous system within its median vertical portion, the integrity of the central canal of the cord within this part, and the absence of true skin over it. It further displayed the absence of any meningeal cavities behind the incorporated portion of the spinal cord. It was clear, therefore, in the first place, that the nerve-roots, which traversed the sac, arose from this intramural portion of the central nervous system, and that all expressions of descriptive pathological anatomy which implied a distribution of the nerves to the sac-wall were a reversal of facts. Even more important than this, the histology of the sac-wall in a typical case, by demonstrating the integrity of the central canal of the included portion of the cord, showed beyond dispute that the neural furrow did not remain unclosed in spina bifida, nor, after having been closed, was it subsequently distended by dropsy and ruptured. The absence of true skin from the central portion of the sac-wall was next adverted to. This fact implied that the mesoblastic basis of the true skin, and the structures lying in subjacent connection with it, had not been developed. The presence of the cord in the sac-wall offered no difficulty of explanation when its epiblastic origin was remembered. The theory, therefore, which best explained the pathological anatomy of spina bifida was that which assumed a primary defect of development of the mesoblast from which the structures closing in the vertebral furrow were developed.

II. *Clinical Course and Treatment of Spina Bifida.*—In order to form a correct estimate of the value of treatment by the injection of Dr. Morton's iodo-glycerine solution, the committee had endeavored to ascertain as far as possible the natural history of the deformity when untreated, and had prepared tables of cases treated in various manners for purposes of comparison. As regarded the natural history of the deformity, the Registrar-General's report for 1882 showed 649 deaths from spina bifida in England and Wales, of which 612 occurred under one year of age. The committee held that, though a certain number of these deaths were due to local causes—rupture of the sac, draining away of the cerebro-spinal fluid, and subsequent septic meningitis—yet in a large proportion of the cases death ensued from the marasmus and general defective nutrition frequently associated with the deformity, and which could not be remedied by any local or other treatment. The tables next dealt with treatment by injection with simple solutions of iodine, and showed a considerable amount of success. Then ligature of the sac was considered, and here again good results

seemed to have been obtained. Excision likewise had a considerable proportion of success. The plan of repeated tapping and pressure gave the least successful results of any. The injection of Morton's fluid, according to the committee's tables, showed a percentage success of between 50 and 60. The high mortality was thought to be, in unsuitable cases, largely due to the treatment having been adopted on account of its simplicity and supposed safety. In spite of the favorable results of ligature and excision of the tumor as shown in the tables, the committee felt themselves compelled to report against these methods of treatment. There was reason to think that the published cases might be misleading, owing to some cases of failures not being recorded, while all the successes, being regarded as surgical triumphs, were almost certain to have been recorded. Moreover, it seemed probable that a careful selection of cases had been made. The committee, therefore, advocated the plan of treatment by injection—and preferably by the injection of Morton's fluid.—*British Med. Journ.*, May 30, 1885.

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*Treatment of Hydrarthrosis by Localized and Forced Compression,
by Wadding and Bandages.*

In an original memoir on the treatment of hydrarthrosis by means of localized and forced compression, by wadding and bandages, Dr. DELORME thus describes the method of applying the dressing to the knee. We begin by cutting a piece of wadding sufficiently long to extend beyond the foot, and reach above the middle of the thigh. The wadding, which should be moderately thick, is then lightly shaken to remove all folds, and to render it pliable and soft. The leg is then raised to remove the engorged venous blood and the cotton applied; all superfluous parts having been removed and the edges thinned, so that when overlapping they together shall be uniform in thickness with the remainder of the wadding. The limb still elevated the foot is covered with a Bauden's bandage of new linen carefully applied without folds or wrinkles and with sufficient firmness. The pressure thus made should gradually diminish from the toes to the instep. With the same care the wadding is exactly applied to the leg by circular turns and reverses until the condyles of the tibia are reached.

Having arrived at this point the bandage is laid aside until there is applied to the knee a roll of wadding having a diameter of a clenched fist and of the shape of a horseshoe, whose opening is in relation with the extremity of the limb and whose curvature embraces the base and sides of the patella. The form and dimensions of this pad enable it to adapt itself to the portion of the limb occupied by the subtrochanteric cul-de-sac and the lateral synovial prolongations, and to exercise pressure at their level. This pad is now held firmly in position by circular turns, from below upward, of the bandage already applied as far as the condyles of the tibia. Oblique turns of the bandage are then applied so as to embrace exactly the whole superior portion of the tampon, and fix it against the upper portion of the synovial cul-de-sac. When a sufficient number of oblique and circular turns have been taken, so that by somewhat firm pressure between the thumbs and fingers of both hands indentation is accomplished with difficulty, the bandaging is considered sufficient, and the operation concluded by fixing the wadding on the lower portion of the leg with additional circular turns.

In order to prevent the slipping of the bandage, Dr. Delorme places the limb in a trough and envelops the whole by a towel extending from foot to thigh. Most frequently the limb is placed in an upholstered trough, and the lower portion of the limb allowed to rest on two transverse horsehair pads, very thick and firm. Ordinarily, immediately after the application of the bandage, the toes become cold and assume a red tint, and sometimes a livid hue which commonly disappears after a few hours, and frequently passes away in twenty-four hours without the

least inconvenience. Slightly increased elevation of the limb, compression of the toes, and slight pressure upon the wadding around the knee, suffice to remove the local stasis. A few hours after the application of the apparatus, and especially at night, pain and cramp of the calf of the leg appear and require the administration of opium or morphia. The day succeeding the application of the bandage, if owing to the disappearance of the effusion the dressing has become less firm, additional turns of a roller should be applied until the dressing attains the same degree of firmness it originally possessed.

This treatment is persisted in until the eighth or tenth day if the disease is acute, and until the fifteenth day if it be chronic, hydrarthrosis.

In a *résumé* of his observations upon the application of the foregoing treatment, Dr. Delorme holds it to be especially applicable in the following cases:—

1. In acute hydrarthrosis, one or several days after its initial symptoms, localized compression has a most favorable influence. In eight or nine days we have commonly found swellings of the knee of rheumatic or traumatic origin to disappear, but, in some cases, this has occurred even sooner. In one case in which there was considerable hydrarthrosis of the knee, combined with slight contusion of the joint, was observed on the removal of the dressing on the fifth day (and after the fifth day observation has shown that it is scarcely necessary to renew the bandages) an entire or almost entire disappearance of the exudation. But as it is difficult to replace any appliances once removed, and as it is frequently necessary to apply an entirely new dressing, it is advisable not to interfere with the limb until a few days beyond this limit. On the contrary, after the removal of the first apparatus on the eighth day, it was necessary in some cases to apply a second, which was left in position for five or six days. However, the point to be remarked is that no cases of acute hydrarthrosis which have come under notice have proved refractory to the treatment proposed, that they have always disappeared in a very short time, and that with one exception no return of the affection has been observed. In chronic hydrarthrosis the disappearance of the effusion was accomplished almost in the time indicated, but the consecutive treatment was continued longer. Although those suffering from acute hydrarthrosis may be discharged toward the end of the first month, those having chronic hydrarthrosis of the knee are retained two months, during which time a sufficiently firm pressure is maintained upon the joint in connection with faradization of the anterior muscles of the leg.

2. Swellings of the knee observed during the course of blennorrhagia are, as is known, very refractory to all therapeutics, while, on the other hand, it is necessary to cause their speedy disappearance in order to avoid articular rigors and ankylosis. Observation seems to demonstrate that the method under consideration causes exudations of blennorrhagic origin to be observed almost as rapidly as traumatic or rheumatic effusions. One of two cases treated was affected with blennorrhagic arthritis of both knees, and for nearly a month was treated without success by simple immobilization, flying blisters, and all other means commonly employed. The exudation was considerable and the pain severe. Firm localized compression in six days caused the swelling on both sides to disappear.

3. In many cases of army practice we were able to apply the treatment at the moment of an accident, after a fall upon the knees, a shock received upon an articulation, a twist of the knee, in a word, after traumatism which were sufficient to cause swelling of the joint; equally it is indicated to prevent effusion by appropriate compression. This practice, entirely rational, is commonly employed in veterinary medicine, with race-horses, to prevent synovial effusions in the sheaths of the tendons.

4. *Hemorrhagic hydrarthrosis*, which complicates fractures of the patella, interposes such an obstacle to the coaptation of the fragments that most surgeons

to-day seek to remove the exudation before treating the fracture. Compression and puncture have been employed without result. The first is censurable, as ordinarily employed, from the fact that it produces tardily the desired result, and diminishes the chances of a bony union. The second, much the more sure, is perhaps not so harmless as its partisans hold. The method now proposed, in view of its results, Dr. Delorme considers the safest and least objectionable, and at the same time the most successful.

5. The rapidity with which localized compression causes the disappearance of an effusion may perhaps be utilized as a means of differential diagnosis in certain cases where doubt exists as to whether the swelling is due to chronic hydarthrosis or white swelling. Although the latter is relatively little amenable to the influence of compression, the first on the contrary disappears rapidly.

In conclusion Dr. Delorme calls attention to the fact that in diseases of the joints treatment is never to be considered completed (especially in hydarthrosis) as soon as the swelling has disappeared, and advises—

1. The continuance of a conservative compression as a safeguard against return of the disease.
2. Immobility of the joint to prevent excessive secretion of the synovial fluid.
3. Electrization of the peri-articular muscles.—*Archives de Méd. et de Pharm. Militaires*, July 16, 1885.

— On Erasion (so-called Arthrectomy) of the Knee.

Mr. G. A. WRIGHT, in *The Medical Chronicle* of July, 1885, describes the operation of erasion of the knee, first employed by him as a substitute for arthrectomy:—

The operation consists in opening the joint freely by a semilunar incision, just as in the ordinary mode of excising the knee; the skin is reflected and the capsule removed on each side of the patella and patellar ligament, or, if preferred, the patella may be sawn across, and the fragments turned upwards and downwards. If the former plan is employed, free incisions parallel to the long axis of the limb are made on each side of the patella, extending a little above its upper border as well as downwards nearly to the insertion of the ligamentum patellæ into the tubercle of the tibia; the object of this is to allow the patella to be freely displaced laterally, and turned round so as to expose its articular aspect during the process of erasion.

The rest of the operation consists in carefully cutting away with forceps and scalpel or scissors every particle of pulpy granulation-tissue, all the infiltrated capsule, and the semilunar cartilages, and scraping quite clean all the articular cartilage, picking out granulation-tissue from any pit in the cartilage, and, if necessary, gouging away any small spots of diseased bone. The process must be most thorough, and extreme flexion of the limb is required completely to expose and clean the posterior part of the joint; the crucial ligaments are scraped, but carefully preserved, the lateral ligaments usually divided.

The upper synovial sac must be thoroughly cleaned. The most difficult part of the operation is getting away the posterior part of the semilunar cartilages and the synovial membrane at the back of the joint.

The process is a tedious one, often lasting one and a half or two hours, including the subsequent putting up in a splint. As soon as all bleeding has been stopped, the limb is fixed on an excision splint and dressed in the usual method, antiseptically. Wood wool is the dressing preferred from its very perfect absorbent properties, and the firm even support it gives; drainage should be at the back of the joint on each side as after excision, the tubes being carried through openings made behind the joint. Mr. Wright prefers to Esmarch the limb before beginning the operation.

OPHTHALMOLOGY AND OTOTOLOGY.

Panotitis in Scarlatina-Diphtheritis.

Dr. OSCAR WOLF, at the close of an interesting paper upon Panotitis in Scarlatina-Diphtheritis, in speaking of the treatment, says:—

So far as the therapeutics are concerned, all those cases show us that the means known to us are not able to oppose the injurious operation of the diphtheritic exudation, even in the first few hours of the ear trouble. Masses of partially organized exudation appeared in the tympanic cavity, and that, too, in the most delicate parts; if we had now instilled a ten per cent. alcoholic solution of salicylic acid, it would have remained for the most part on the upper surface of the exudation without availing anything, even if it had really reached the tympanic cavity, while, on the other hand, if it had reached a vulnerable spot, it could have caused even a rupture of the fenestral membrane. We must, in my opinion, in such cases, refrain from attempts to influence the diphtheritic process itself, and be satisfied with emptying as quickly and completely as possible the tympanic cavity of exudation, and ought only to resort to disinfecting means that do not corrode.

By the use of pilocarpin injections in the first place we are enabled to loosen more easily and effectually the diphtheritic exudation, and at the same time the labyrinth is speedily relieved, especially by the marked increase of the secretion of the mucous membrane of the tympanic cavity. But this treatment is very much interfered with, and that, too, at the height of the disease, by the somnolence and tendency to cardiac weakness induced by it, with no inconsiderable danger to the life of the patient; one should, therefore, begin very cautiously, with very small doses of this medicine, and only after careful examination of the general condition.—*Archives of Otolaryngology*, June–September, 1885.

Ménière's Disease.

LORENZ ECKERT, in a treatise upon Ménière's disease, reviews all hitherto published cases and articles pertaining to this pathological condition. From these and fifteen as yet unpublished cases of Burckhardt-Merian, the author attempts to draw a distinct anatomical basis for the various symptoms of Ménière's disease, and arrives at the following conclusions:—

1. The semicircular canals, with their ampullæ, are the organs of the sense of co-ordinate motion, directly for the head, indirectly for the entire body.
2. The localization of sound is determined by binaural power of hearing. The semicircular canals take no part in this, but possibly exert acoustic functions in other respects.
3. The appearance of the various symptoms of Ménière's disease is in most cases attributable to a diseased state of the terminal apparatus of the acoustic nerve in the labyrinth. It is only in rare instances that these are called forth by pathological changes in the adjoining nerve-centres.
4. Pathological changes of conditions in the middle ear and in surrounding structures, producing a change in the intra-labyrinthian pressure, may call forth a similar train of symptoms.
5. The symptoms are induced by an irritation of the labyrinthian organs or their nervous centres. Complete destruction of the same seldom calls forth a loss of function.
6. Disturbances of co-ordinate motion may be absent in pronounced chronic or acute affections of the labyrinth.

7. Constitutional diseases, such as lues leukæmia, epidemic parotitis, and tabes, are recognized factors predisposing to the development of Ménière's disease.—*Archives of Otology*, June-September, 1885.

The Treatment of Mastoid Suppuration without the Use of the Trephine.

LÆWENBERG, at the conclusion of an exhaustive discussion of the treatment of suppuration of the mastoid cells without resorting to the trephine, expresses his views as follows:—

In the treatment of mastoid suppuration, before resorting to trephining, hitherto considered the only therapeutic measure applicable to the treatment of the affection, I advise scrupulous and patient use of the following measures, whose practice has frequently enabled me to avoid this operation, which is always dangerous, and sometimes impossible on account of the peculiar structure of the bone:—

1. In order to obtain an easy exit for pus accumulated in the mastoid apophysis, through the drum and auditory meatus—

a. Enlarge considerably the small perforation of the tympanic membrane. In cases where spontaneous perforation has occurred too high for the ready escape of pus, a counter-opening below should be made.

b. Frequently practice insufflation of air through the Eustachian tube.

c. Cleanse the diseased cavities several times a day by free and forcible injections of saturated solutions of boracic acid, or of weak solutions of corrosive sublimate.

d. Destroy vegetations or polypi if they are present either in the auditory canal or tympani cavity.

2. Institute at once energetic and careful antiseptic treatment.

In this connection abstain from the employment of all emollients, which can only conduce to the multiplication of microbes, constantly present, and begin treatment at once with a saturated solution of boracic acid in absolute alcohol, whose use has already been suggested in otorrhœa, and which I consider as corresponding to all the indications here necessary to be employed. In beginning its application the alcohol should be used as concentrated as possible, and gradually strengthened until it can be endured entirely undiluted.

3. In case of necessity open the abscess formed at the mastoid apophysis, introduce a drain, and cover the external openings with the impalpable powder of boracic acid, over which absolute alcohol should be sprinkled several times daily.

Prof. Læwenberg adds that, having employed the measures indicated above for six years, in the treatment of mastoid disease, frequently of a serious character, he can warmly recommend its careful and patient application.

Trephining in a great number of cases is rendered superfluous, and only becomes necessary when sequestra are present, or some other vital indication exists.

The writer finally remarks that trepanning, instead of being the rule in the treatment of this affection, as many authors insist, should only be exceptionally performed, and as a last resort.—*L'Union Médicale*, August 29, 1885.

MIDWIFERY AND GYNÆCOLOGY.

Inguinal Hernia of the Right Horn of the Pregnant Uterus.

Dr. HEINRICH EISENHART, at the conclusion of a report of a case of inguinal hernia of the right horn of the pregnant uterus, in which the condition was correctly diagnosed previous to operation, sets down the following points to be observed:—

Pregnancy, he says, must be determined to be present or absent, according to the subjective and objective symptoms presented. Whether the pregnancy is intra- or extra-uterine, or whether the pregnant uterus, tube, or ovary is contained in the hernial sac, must be determined by observation of the following points:—

1. Extra-uterine pregnancy almost never is complicated with rupture of the uterus. Of this, a single case, involved in much doubt, is reported (Skrivan and Lumpe). Moreover, it must be recollected that tubal pregnancies, which are much more numerous than ovarian pregnancies, almost invariably terminate during the first months through rupture of the containing sac, a circumstance to be considered if the pregnancy under consideration has reached the sixth, seventh, or a later month. Finally, it must be held in mind that inguinal hernia of the pregnant uterus does not belong to the catalogue of rare exceptions.

2. The form of the body present in the hernial sac, in hernia of the uterus, is similar in shape to a pear, the broadest portion being below, the smaller portion extending into the entrance of the hernial sac. This peculiarity is one by which the diagnosis may be confirmed, especially if the ovary can be felt in near relation with the tumor.

3. Vaginal examination, more certainly than all else, will permit a correct diagnosis to be made. Bimanual examination will enable a decision to be reached, that the body in the hernial sac, and that recognizable in the vagina, are one and the same, while combined investigation of the bladder and rectum will detect any deviation of the uterus from its normal position. Concerning the latter, an anomaly in the formation of the uterus may be a source of error, especially should the organ be bicornate, and therefore predisposed to hysterocoele. Nevertheless careful examination will enable a correct conclusion to be reached. Introduction of the sound is only justifiable when abortion, either natural or artificial, appears unavoidable.—*Archiv für Gynäkologie*, Bd. xxvi., Hft. 3.

Eclampsia and the Albuminuria of Pregnancy.

MM. DOLERIS and POUY, at a meeting of the Société de Biologie, held July 17, 1885, in a communication concerning the albuminuria of pregnancy and eclampsia, make the following statement of the results of their investigations:—

1. Contrary to the opinion generally accepted, the urine of pregnant women rarely contains albumen. In experimenting with women arrived at the ninth month of pregnancy, a period most favorable for the appearance of albuminuria, in some hundreds of cases, after analysis with the most sensitive reagents (that of Tanret in particular), albuminuria was found in twenty cases only.

Albuminurias observed at the beginning and during the course of labor must be disregarded.

Here, indeed, they are a little more frequently met with, but they constitute a transient accident, due to diverse causes, isolated, or temporarily united to produce such result—nervous excitation, elevation of blood-pressure, compression and sometimes contusion of the bladder by the mechanical engagement of the fetal head, followed by extravasation of serum into the urinary reservoir.

The authors have intentionally disregarded observations on this point.

It ought not, however, to be forgotten that phenomena belonging to secret labor may appear several days before true accouchement, and that albuminuria may on this account appear during the last days of pregnancy.

2. A. By the careful as possible use of processes (tubes, and sterilized catheters, and heated antiseptic washing of the vulva, repeated many times, etc.), the authors collected directly by catheterization the urine of fifty pregnant women, in order to make a microscopic examination and culture in view of search for micro-organisms.

In this number were comprised but few women affected with albuminuria.

In these fifty cases they found microbes in a proportion of one to five, under the form of bacilli, and more rarely under the form of micrococci. Their presence seems to be explainable in those women the kidneys of whom were functionally normal by the existence of a vaginal catarrh, whose secretion, in spite of the precautions taken, reached the catheter. In every case in which the microbes were very abundant, such catarrh was found to exist.

B. In twenty women in whom there was albuminuria, the presence of the microbes was constant. The micrococcus under various forms peculiar to it was always present: monococcus, diplococcus, staphylococcus, and principally the streptococcus.

From the constancy of these results denial of the existence of non-microbial transitory albuminuria could not be absolutely made. However, it must be very rare.

3. As to the blood of pregnant women who have albuminuria, it appears, from the researches of MM. Doleris and Poney, that, although albuminuria is always accompanied by the presence of microbes in the urine, the condition does not imply their presence in the blood. At least culture of a drop of blood taken from the extremity of a finger has not always been fertile. From this, however, the absence from the blood of micro-organisms cannot be absolutely concluded, but it can be considered that they are rare, or localized in a region with little connection with the blood-current, in those cases in which the experiments have been negative.

4. In all cases in which albuminuria eclampsia was observed by the authors, the urine contained micro-organisms rendered evident by culture.

The blood was examined and cultivated in two cases with positive result. The authors do not take into consideration the less precise researches made in three other cases. But as to the two positive cases, the one permitted the recognition, with astonishing precision, of the progress of the affection, and an advance parallel with the microbic infection of the blood and urine. Some hours after the beginning of the convulsions, a culture of the urine and blood made in six *ballons* containing sterilized bouillon, rendered slightly alkaline, was made.

The urine contained at this time mobile points in great abundance, and the blood also contained more abundant mobile granular bodies than normal. Examination of the cultures made two days after showed the presence of the staphylococcus and abundant granular rings comprised of from 10 to 20 grains from 1 mm. to 2 mm. in diameter.

A new culture of the urine made six days after the cessation of the convulsive attacks, the urine still containing albumen, gave the same results. Six days later, when the albumen had completely disappeared, a third culture of the urine remained sterile, and negative results were maintained up to the discharge of the patient.—*Archives de Tocologie*, August, 1885.

Cysts of the Vagina.

Dr. THALINGER, in a treatise on this subject, considers cysts of the vagina—

1. As cysts of retention. This opinion can be sustained only with difficulty, inasmuch as the existence of cysts of this portion of the vaginal mucous membrane is not yet certainly demonstrated.

2. As hygromas. This view probably is supported by the greatest number of observers.

3. As cysts of the canal of Gärtner, an explanation applicable to a few instances only.

These cysts arise from mechanical predisposing causes, chief among which is accouchement, since traumatism is the only determining cause whose action is probable.

The treatment suggested as giving the best results is incision, followed by caustic injections into the cavity.

Hydroceles of the neck of the uterus treated by puncture and injection of iodine have given rise to serious accidents. In the vagina, as in the cervix uteri, the cysts are in relation with extremely vascular regions in which the reaction due to the injection is too energetic; and though some writers—Fleetwood, Churchill, and Scanzoni—employ no other method, notwithstanding their authority, the operation in every instance should be performed only after due consideration.

Thalinger further argues against the operation by puncture by holding that should the cyst be deep-seated it is difficult to reach, and it is therefore difficult to avoid injecting a great part of the caustic solution into the vagina, in which case the operation is very uncertain of success, Scanzoni himself saying that it should be repeated for six days in succession.

Having discussed the operation by puncture, M. Thalinger considers the operation by incision, which he unhesitatingly pronounces the preferable procedure.

This method is the one practised by M. Tillaux. The parts are first treated with a solution of cocaine, after which the sac is incised and injected, first with solution of carbolic acid, and then with four per cent. solution of the chloride of zinc. The incision is made without difficulty, and the only precaution to be taken is to avoid wounding the bladder or urethra in the front, and the rectum in the rear, by extending the incision beyond the walls of the cyst.

As precautionary measures, Dr. Thalinger suggests the introduction of a sound into the bladder, or the introduction of the finger of the left hand into the rectum. As a further precautionary measure, the blade of the bistoury may be enveloped by lead-plaster, and only a small portion of its cutting edge exposed.

Excision.—This method, next considered, is pronounced not "always irreplaceable," because in many instances, especially in large cysts, cicatrization is not always prompt, but is frequently followed by the appearance of persistent fistule.—*Revue de Thérapeutique*, August 15, 1885.

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Fibroid Tumor of the Uterus—Extensive Cancerous Degeneration and Ascites in a Girl thirteen years of age.

Dr. VON KÜNIG reports the case of a girl thirteen years of age in whom, along with uterine fibroid, there were present also cancerous degeneration and ascites.

The history is as follows: The patient, whom he first saw October 25, 1884, complained of pain in the left side of the belly, loss of appetite, costiveness, and disturbed sleep. The temperature of the skin was scarcely elevated, the secretion of the urine normal and contained no albumen. The pulse was 108. The

menses first appeared in March, 1884, and disappeared in April. After this they again became established regularly, until the middle of October, when they again failed to appear. Since this time the preceding symptoms began to be developed. Examination revealed considerable abdominal enlargement, presenting the uniformly rounded appearance observed from the fifth or sixth month of pregnancy. The abdominal walls were tensely stretched and of variable resistance. On the right side was felt an underlying hard body whose limits were not recognizable on account of the tense condition of the abdominal walls. The firm spot was unyielding and immovable. On the left side the abdominal wall was elastic, fluctuating, and painful. Percussion, as far as the upper abdominal region, was tympanitic. Change in position of the body caused no variation in the fluctuation or percussion sounds. Auscultation of the abdomen revealed no signs of importance. The breast was slightly developed, flabby, and not painful. The nipples were small, and on pressure discharged no fluid. Examination made by a skilled midwife showed the vaginal orifice not closed, the vaginal portion of the uterus high up and directed slightly backward, somewhat softened and closed. No fœtus was recognizable through the vaginal walls. A later examination made by Dr. Von König revealed the same condition as above. The patient confessed to have had intercourse the middle of June. The painful abdominal symptoms soon disappeared, but the abdominal secretion increased, and in the course of several weeks a marked dropsical condition was developed. There was œdema of the abdominal cutis, genitals, and the lower extremities. The upper portions of the body were emaciated. Secretion of urine nearly ceased. The urine was dark brown, acid, and laden with the uric acid salts. The patient had continuous fever; the pulse was 120, small and feeble. There was loss of appetite, constipation, failure to sleep, and difficulty in breathing. All medication was ineffectual. Dyspnœa existing to such a degree as almost to cause suffocation puncture was made February 12, 1885. The trocar was introduced midway between the umbilicus and the spine of the ilium, and about two gallons of fluid were evacuated. The first portion of the fluid which escaped was of a brownish-red color, and the last of a whitish color.

After the evacuation of the fluid the left side of the abdomen was sunken in, while the right still maintained the form of the abdominal arch, and through it could be felt a hard, immovable tumor the size of a child's head, and extending into the pelvic cavity. The fluid discharged had a specific gravity of 1.0415, was alkaline in reaction, and abounded in albumen.

After puncture the patient felt much relieved; dyspnœa much relieved. Sleep and appetite returned, and every day a quantity of straw-colored urine containing no albumen was passed.

After a few days, however, the condition of the patient again became unfavorable, and in addition a new symptom was manifested.

This was a painful swelling in the right breast, which extended from the inner border of the left mammary gland over the sternum to the right breast. The swelling enlarged rapidly, was irregular, uneven, traversed by enlarged veins, and exceedingly painful. The collection of fluid in the abdominal cavity again necessitated puncture, the same symptoms as existed before having presented themselves. The fluid withdrawn was the same in color and nature as that originally obtained. Improvement again followed the operation, but was of shorter duration, and within a week the patient was seized with vomiting, during which quantities of dark-red-colored water mingled with mucus were discharged from the stomach. All efforts to control the vomiting were unsuccessful, and after persisting for three days the patient became so enfeebled that she was unable to rally, and died March 19, 1885.

Post-mortem examination showed the tumor in the breast to be a medullary carcinoma.

Examination of the abdominal cavity showed, after the escape of several quarts of a clear brown ascitic fluid, the presence of a tumor as large as a man's head, extending from the pelvic cavity to the umbilical region, and adherent to the right abdominal wall. Further examination showed the tumor and the uterus to be filled with one and the same neoplasm. The substance of the uterus with the exception of the vaginal portion was converted into a tough fibrous mass, which on section gave exit to a cream-like fluid similar to that found in the diseased breast. The walls of the uterus formed a sac whose walls were about two-fifths of an inch in thickness and which collapsed when cut. The cervical canal was easily distinguishable and permeable to a probe. In the saciform cavity of the uterus was a neoplasm as large as a child's head, weighing from seven to nine pounds. The tumor, firm, fibrous, and easily cut, contained cavities varying in size from that of a hazelnut to that of a hen's egg, which were filled partly with firmly coagulated fibrin and partly with bloody serum. The microscopic appearances showed the growth to be fibro-cystic.

There was no trace of either fetus or membranes. The annexa of the uterus, intestines, and mesentery, and some portions of the peritoneum, contained medullary carcinomatous nodules.—*Allgemeine Wiener med. Zeitung*, June 16, 1885.

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A Contribution to the Study of Cysts of the Ovary developed in the Cavity of the Pelvis.

Dr. GUICHARD, after a study of a rare case of dermoid cyst of the ovary, in which operation was successfully performed by vaginal incision, lays down the following rules as to surgical interference with the growth :—

From an operative point of view Dr. Guichard distinguishes two classes of dermoid cysts of the ovaries :—

I. Cyst located in the greater pelvis.

II. Cysts located in the smaller pelvis.

Of the second class he recognizes two classes :—

1. Cysts which have a tendency to be developed in the abdominal cavity, and are accessible by the abdominal wall.

2. Cysts which have a tendency to be developed deeply in the pelvic cavity, and are accessible by the vagina and not by the abdominal wall.

If the dermoid cyst is diagnosed at an early period, and while in an uncomplicated condition the expectant treatment is alone indicated. When, however, it is first seen to be in an inflammatory condition, and when increase in volume will endanger the life of the patient, operation is necessary. In cysts which are developed in the pelvic cavity, and which are in relation with the abdominal wall, gastrotomy is the only treatment, and observation seems to show that the operation is more favorable in prognosis than in that for serous cysts of the ovary.

In some cases dermoid cysts of the pelvis are accessible through the abdominal wall, and cure is possible after incision and drainage; a long time will, however, be required in order to accomplish the union of the thickened abdominal walls, especially if suppuration is established in a cul-de-sac with sloping walls, in which case it will be preferable to try drainage and puncture of the sac by its inferior wall. Whether gastrotomy is possible in this variety, experience only can demonstrate.

Other dermoid cysts of the variety now under consideration, which are deeply

situated at the base of the broad ligament at the side of the hollow of the sacrum, which are congenital or the result of inflammation, having firm adhesions with the circumference of the pelvis and the neighboring organs, and which have a tendency to develop at the side of the vagina without intimate relation with the abdominal wall, do not appear accessible to operation by gastrotomy. This operation is, perhaps, not impossible, but appears compassed with difficulties, and serious in its results. In reality the cyst has intimate relations with the uterus, and simple ovariectomy is not to be practised alone, but along with it hysterectomy is required. The patient after recovery will be sterile, while in the operation by vaginal incision (as described by Dr. Guichard) pregnancy has occurred under normal conditions eight years subsequent to operation—a fact which constitutes a powerful argument in favor of the latter procedure.

Incision at the dependent portion, through the vaginal wall, seems to be specially indicated. As exploratory puncture is always necessary, it will be sufficient to introduce a grooved sound and cut toward the cervix uteri with a blunt bistoury or tenotome, taking care to avoid the larger arteries always present in the vaginal walls or in their neighborhood, in order to escape the danger of serious hemorrhage, the control of which is always a matter of extreme difficulty. Then, after evacuating the cavity of its contents, it should be cleansed with rectified ether, as suggested by M. Bernutz, and drainage-tubes of sufficient size introduced, and strict antiseptics resorted to. Labarraque's solution seems solely to modify the disagreeable odor, and solution of the bichloride of mercury is perhaps to be preferred. Suppuration will persist for a long time. In the case recorded it lasted for six months. Injections of the tincture of iodine or cauterization will be necessary as a final procedure to cause complete cicatrization of the sac. For a long time a deep cicatrix will remain, an unyielding cord immobilizing the uterus. This condition—as well as any existing uterine complications—time, hygiene, and well-directed treatment will remedy.—*Archives de Tocologie*, July, 1885.

The Thermo-Cautery in the Treatment of Chronic Metritis.

Dr. E. SCHWARZ, in a paper upon the treatment of chronic metritis, advocates the use of the thermo cautery, and reports most satisfactory results from its use in thirty cases so treated. Complete cure and permanent alleviation of the symptoms have not resulted in every case; but this, he says, is not remarkable when the pathological and anatomical foundation of the affection is taken into consideration. In about one-third of the cases in which the wedge-shaped excision, recommended by Schröder and Martin, was indicated, Dr. Schwarz, by means of the knife-shaped galvano-cautery, burned from each lip of the uterus a wedge-shaped portion of tissue about one inch in length, the same breadth, and from one-fifth to two-fifths of an inch thick at the base. Commonly, the same effects were obtained by the use of the cautery as with excision with the knife. In special cases the size of the portion removed was determined by the degree of hypertrophy existing. Ordinarily, without fear of persistence of the diseased condition, a portion of the diseased membrane from one-fifth to one-third of an inch broad can be allowed to remain. This, after the disappearance of the abnormal condition of nutrition, rapidly shrinks and returns to a normal condition, so that in from four to six weeks the parts are found fully covered with normal mucous membrane as far as to the os uteri.

The application of the cautery is made in a few minutes. No assistant is necessary. A glass speculum neither too long nor narrow is required, and in order to avoid making this too hot a short pause is made in the application of the cautery, during which irrigation is practised. Ordinarily, the pain experienced

by the patient is not severe, and she fails to discover the occurrence of anything unusual unless previously advised of the operation intended. Moreover, patients who complained of severe pain from scarification of the parts experienced no unpleasant sensation from the use of the cautery. After the operation the cauterized parts were dusted with iodoform and the vagina packed with antiseptic gauze. The patient usually kept her bed only two or three days.

Separation of the eschar usually occurred during the first eight days. Extensive suppuration as a result of the operation has not been noticed, but under the use of the iodoform tampon or sublimate gauze and irrigation, healing without extensive discharge has always quickly resulted.

In other cases in which such extensive hypertrophy did not exist, but in which it was necessary to reach the numerous dilated bloodvessels, the wedge-shaped cauterization was not practised. A pointed cautery was used by which was burned into each lip a number of holes from one-fifth to three-fifths of an inch deep, and about the diameter of a goose-quill. Cicatrization under these circumstances occurred more rapidly than in the cases first noticed, and without notable suppuration.

Hemorrhage was observed neither during nor after the operation, nor as a result of the separation of the eschar, and likewise but little inflammation or marked stenosis of the os uteri was noticed.

In every case there was marked and lasting improvement of the condition; in no case was the condition of the patient rendered worse. The results anatomically correspond to those clinically obtained.

In all cases there was more or less considerable diminution of the uterus, and a decrease in its vascularity. In some cases, however, it was found necessary to repeat the operation, owing to insufficient cauterization at first.—*Centralbl. für Gynäkologie*, July 18, 1885.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

Investigation of the Nature and Properties of the Ptomaines.

Alkaloids as agents in the causation of symptoms of disease have grown into great prominence during the past few years. The interest that attaches to "cadaveric alkaloids" is both pharmacological and forensic. Perhaps no one has done more for the advancement of our knowledge of ptomaines than Professor BRIEGER, who has recently published *Weitere Untersuchungen über Ptomaine*.¹ As far back as 1866 Dupré and Bence Jones noted the presence of alkaloid-like substances in all the organs, tissues, and fluids of human and animal bodies. Owing to the fluorescent appearance of the solutions of this alkaloid in weak sulphuric acid the name of "quinoidin" was given to it. Nevertheless, Dupré and Jones did not succeed in obtaining ponderable quantities of the pure substance. In 1869 Sonnenschein and Zülzer obtained from a maceration of muscle an alkaloid having the property of dilating the pupils of rabbits and dogs. When injected into the jugular vein of rabbits, it increased the number of beats of the heart, and in two animals completely stopped the peristaltic action of the intestines. Rürsch and Fassbender found in 1871 in the liver, spleen, and kidneys, by the Otto-Stauss method, a body having alkaloid properties. It was a tasteless,

¹ Berlin, A. Hirschwald, 1885.

uncrystallizable substance, and gave, with phospho-molybdic acid, a precipitate, which by warming and the addition of ammonia assumed an intensely blue color. In the same year Schwanert extracted from the putrefying intestines, liver, and spleen of a child that died suddenly a peculiar-smelling fluid body that dissolved in ether. On the supposition that this was an alkaloid formed during putrefaction, Schwanert analyzed the completely putrefied abdominal organs of a male corpse, and obtained a golden oil that smelt of propylamine, had a somewhat bitter taste, and gradually evaporated. The hydrochlorate of this body gave various reactions like those of alkaloids, but its toxicology was not investigated. L. Liebermann extracted from a putrefying stomach a coniine-like substance, which was taken up by ether from either alkaline or acid solutions. This substance had no poisonous properties. Traces of arsenic were found in the same stomach. In a trial for murder by poisoning, held at Brunswick in 1874, the expert in chemistry discovered, besides arsenic, a coniine-like base that Otto regarded as a ptomaine. It did not give the characteristics of nicotine, though resembling it in some respects. It was deadly poisonous, and killed a frog and a pigeon very rapidly. A similar kind of alkaloid was detected by Brouardel and Boutmy in the corpse of a woman who had died with symptoms of cholera, and who had partaken of a stuffed goose with ten other individuals. The base was also detected in the remains of the unwholesome goose. The substance was volatile, smelt strongly of mice's urine, and gave several reactions like those of coniine, though it differed in remaining colorless with muriatic acid, and could not be oxidized into butyric acid. It proved poisonous to frogs. In the cadaver resulting from prussic acid, and also in another due to charcoal fumes, the same authors discovered an alkaloid having a likeness to veratrin. Somewhat similar substances were also found in a body dead from arsenic, in one that had lain in water eighteen months, and in another that had succumbed from asphyxia. Wolkenhaar, again, extracted from the intestines of a woman who died from the excessive use of alcohol an alkaloid-like body having many features in common with nicotine; it was not toxic in its action. Morriggia and Battistini stated that dead bodies yielded much larger quantities of poison eighty days after burial in warm summer weather than when they were investigated in a shorter time after interment. These statements were made as the result of physiological experiments on frogs and rabbits. Extracts of the putrid tissues were made with pure or acidulated water, ether, ethyl-alcohol, or amyl-alcohol, and injected into the animals mentioned. Falling off in the number of heart-beats, loss of motility and sensation, and stoppage of the heart in systole were the phenomena noted.

The name of Selmi stands out most prominent in this field of work. It was he, if we mistake not, who first coined the word "ptomaine," which indicated the cadaveric origin of the alkaloids. It is now known that bodies undistinguishable from those discovered in the cadaver occur under many other circumstances. We may refer our readers to the article by Dr. Wolfenden, published in *The Lancet* of 1883, vol. ii. p. 852. The investigations of Guareschi and Mosso may also be mentioned (*The Lancet*, vol. i. p. 827, 1883). Brieger lays much stress on the following propositions: That in the different stages of decomposition in the human body different basic products are formed; that many ptomaines disappear, their place being taken by others; and that certain bases, though present in spare quantities at the beginning of decomposition, gradually acquire a greater prominence as other basic substances disappear. A certain analogy exists between the above-mentioned changes and those met with in the putrefaction of albumen. Nencki has shown that for the formation of indol a certain temperature is necessary; whilst the production of phenol, according to Baumann and Brieger, is independent of temperature. Odermatt has proved for

indol what Brieger has for phenol—that it disappears completely to make place for other aromatic products. In the course of putrefaction, cholin, which is probably derived from lecithin, is perhaps the first alkaloidal substance to make its appearance. On the third day what Brieger has called “neuridin” ($C_8H_{14}N_2$) can be found. Neuridin forms with picric acid a picrate which crystallizes in feather-like masses of needles, which are almost insoluble in cold water and very difficult of solution in hot water. Neuridin is always found in company with cholin, but the latter gradually diminishes in quantity, whilst the former increases day by day. The fact that in slow putrefaction of human organs no strongly poisonous ptomaines can be shown to exist during the first few days deserves attention. About the time of the disappearance of cholin may be reckoned as the period when strong toxic products are developed. It is not known whether trimethylamin results from the decomposition of cholin or neuridin, but both these bodies contain its elements. Brieger refers to the appearance of a ptomaine on the seventh day which has hitherto been unknown. One of his observations showed that this new base was present even on the third day, though in very minute traces. With platinum salts the new base formed dark red masses which were composed of needles mixed up with spangles and spicules. The purified crystals were of a somewhat brighter color, and were found by Dr. Hirschwald to be about two millimetres in length, and to belong to the rhombic system of crystals. The crystals proved with polarized light to be doubly refracting. The base also forms a beautiful double salt with gold. This new diamin ($C_8H_{14}N_2$) is termed “cadaverin,” and boils at a temperature of 115° to 120° C.; unpleasant is its odor, reminding one of conine. A third diamin has also been differentiated, having the composition of a butylendiamin ($C_8H_{12}N_2$), but its reactions prove it to be a secondary diamin. The absurd name of “putrescin” is given to this substance, which may be detected on the fourth day of natural putrefaction, but is not present in large quantities until a week later. A fourth diamin called “saprin” has also been isolated from the products of decomposition of human organs. Neuridin, cadaverin, putrescin, and saprin are physiologically almost harmless; cholin in large quantities produces physiological effects like those of muscarin; whilst trimethylamin must also be given in large quantities in order to cause toxic effects. Brieger has, however, found two powerfully poisonous ptomaines in the cadaver. These poisons existed in large quantities on the fourteenth and twenty-first days of decomposition. One of these bodies is named “mydalein;” it exercises marked effects on the various functions of the body, increasing the nasal and lachrymal secretions, dilating the pupil, stopping the heart and breathing, and causing paralysis and death. After large doses the heart is found to stop in diastole. Severe diarrhoea and vomiting were observed in a cat as the result of the injection of a minute dose of the poison. Brieger has also investigated the nature of the products resulting from the action of bacilli in various media. He has separated highly poisonous bases from cultivations of the Koch-Eberth bacillus of typhoid fever. Intense salivation, diarrhoea, and paralysis were some of the toxic effects produced by these poisons.—*The Lancet*, August 15, 1885.